

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Commercial door hardware for new and existing wood doors.
2. **Extensive retrofitting of hardware onto existing doors and frames, requiring field survey of each opening by the Contract Hardware Supplier prior to submitting hardware for review. Contract Hardware Supplier is responsible for the proper fit-up, clearances and function of all hardware.**
3. **Replace all of the door hardware on the Residential Unit doors whether the door is new or existing door to remain. To determine hardware item counts for bidding, see the following:**
 - a. 087100-3.6 Door Hardware Schedule for types of doors.
 - b. Demolition Plans for schedules described which doors are to be replaced and which are to remain.
 - c. Enlarged Unit Plans and Door Schedule.

1.2 SUBMITTALS

A. **Number of Submittals: All items listed in this section are to be included in one submittal prepared by one Supplier.**

B. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Qualification Data:

1. Finish Hardware Installers
 - a. Finish hardware, including electrified hardware, for wood, hollow metal, and aluminum doors to be installed by personnel trained and certified by the manufacturer of the product furnished.
 - b. Provide manufacturer's certificates for installer as part of Contractor's bid information. Failure to supply certificates may result in rejection of bid.
2. Hardware Supplier
 - a. Established contract hardware firm which maintains and operates an office, display, and stock in project area and which is a factory authorized distributor of the lock being furnished.
 - b. Hardware scheduled and furnished by or under direct supervision an Architectural Hardware Consultant.
 - c. All schedules submitted to the Architect for approval and job use must carry the signature and certified seal of this Architectural Hardware Consultant.
3. Architectural Hardware Consultant
 - a. Currently certified by the Door and Hardware Institute.
 - b. Full-time employee of the Hardware Supplier or an individual having no contractual ties to any supplier/manufacturer entity.
 - c. Available at reasonable times to Architect, Owner, and Contractor during course of work.

- d. All schedules submitted to the Architect for approval and job use must include copies of the distributors factory authorization to distribute and install their operators and AAADM certification to install both high and low energy automatic door operators.
- D. Maintenance Data: For each type of door hardware. Include final hardware schedule, and product datasheets, labeled on spine with project name and "Door Hardware".
- E. Warranty: Special warranty specified in this Section.
- F. Other Action Submittals:
1. Door Hardware Sets: Prepared by or under the supervision of a DHI certified Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. **Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule"; other formats will be rejected without review. Double space entries, and number and date each page.**
 - b. **Numerical Sequence of Sets and Headings: Submittal headings shall be in exact order as hardware sets in specification: one heading only per set. Submittal set numbers shall relate to specification set numbers, ie. if three headings are required for Set 12 due to door width differences, then the heading numbers should be 12.1, 12.2, and 12.3 or employing similar linking logic.**
 - c. **Door Numbers: Identical to those used in the contract documents.**
 - d. Number of Copies: (5).
 - e. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Degree of opening for closer and overhead stop and holder installation.
 - 5) Keying information.
 - 6) Fastenings and other pertinent information.
 - 7) Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - 8) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 9) Mounting locations for door hardware.
 - 10) Notes included with specification hardware sets transcribed verbatim into submittal hardware sets.**
 - 11) Door and frame sizes and materials.
 - 12) List of related door devices specified in other Sections for each door and frame.
 - f. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.

1.3 QUALITY ASSURANCE

- A. **Furnish proper hardware types and quantities for door function, hardware mounting and clearances, and to meet applicable codes. Bring discrepancies to the attention of the Architect a minimum of (10) days prior to bid date so that an addendum may be issued. No additional compensation will be allowed after bidding for hardware changes required for proper function, hardware mounting or clearances, or to meet codes.**
- B. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- C. Source Limitations: **All items listed in hardware sets are to be furnished by one supplier.** Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
- D. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code including, but not limited to, the following:
1. NFPA 70 "National Electrical Code", including electrical components, devices, and accessories listed and labeled as defined in Article 100 by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 2. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1 as follows:
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
 - 1) Interior Hinged Doors: 5 lbf applied perpendicular to door.
 - 2) Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
 - c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
 3. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Thresholds: Not more than 1/2 inch high.
 4. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 (neutral pressure at 40" above sill) or UL-10C.
 - a. Test Pressure: Positive pressure labeling.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.

1.5 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Distribute templates in a timely manner so as not to delay suppliers. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.6 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated or per manufacturer's standard warranty, whichever is longer.

1.7 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this and door hardware sets indicated in Part 3 "Door Hardware Sets" Article.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.

- B. Designations: Requirements for design, grade, function, material, finish, size and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Schedule" Article.
 2. References to BHMA Standards: In addition to other requirements in this section, provide products complying with or exceeding these standards and requirements for description, quality, and function.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electrified access control door hardware, in compliance with specifications, must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01 "Substitution Procedures". Approval of requests is at the discretion of the architect, owner, and their designated consultants.
- D. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include manufacturers specified.

2.2 BUTT HINGES, GENERAL

- A. Quantity: Provide the following, unless otherwise indicated:
1. Two Hinges: For doors with heights up to 60 inches (1524 mm).
 2. Three Hinges: For doors with heights 61 to 90 inches (1549 to 2286 mm).
 3. Four Hinges: For doors with heights 91 to 120 inches (2311 to 3048 mm).
 4. For doors with heights more than 120 inches (3048 mm), provide 4 hinges, plus 1 hinge for every 30 inches (750 mm) of door height greater than 120 inches (3048 mm).
- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Hinge Height, Width, and Weight: Unless otherwise indicated, provide the following:
1. Doors with Exit Devices or 3'6" or more in width: 5" high, heavy-weight hinges.
 2. Doors less than 3'6" in width: 4-1/2" high, standard-weight hinges unless existing frame preps require otherwise for proper fit-up..
 3. Width: 4-1/2" heavy-weight, 4-1/2" standard-weight, unless proper clearance requires a different width. Supplier shall detail the hinge width mindful of special frame moldings and configurations on this project.
 4. Doors with Closers: Antifriction-bearing or ball bearing hinges.
- D. Hinge Base Metal: Unless otherwise indicated, provide the following:
1. Hinges for doors swinging into bathrooms: Non-ferrous, with stainless-steel pin.
 2. Balance of hinges: Steel, with steel pin.
- E. Hinge Options: Provide the following:
1. Corners: Square or as best suits existing frame preps.

2. Number of knuckles: Five.

F. Fasteners: Comply with the following:

1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
2. Wood Screws: For wood doors and frames.
3. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.
4. Screws: Phillips flat-head. Finish screw heads to match surface of hinges.

G. Template Hinge Dimensions: BHMA A156.7.

H. Available Manufacturers:

1. Hager Companies (HAG).
2. McKinney Products Company; an ASSA ABLOY Group company (MCK).
3. Stanley Commercial Hardware; Div. of The Stanley Works (STH).
4. PBB, Inc. (PBB)

2.3 LOCKS AND LATCHES, GENERAL

A. Accessibility Requirements: Where indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).

B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101. Latches shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.

C. Lock Trim:

1. Levers: Cast.
 - a. Stanley A Slate model with no return (verify with Owner prior to submitting hardware for approval).
2. Lockset Designs: Provide design indicated in hardware sets, or, if sets are provided by another manufacturer, provide designs that match those designated.

D. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Bored Locks: Minimum 1/2-inch (13-mm) latchbolt throw.

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

F. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, **with curved lip extended to protect frame (note special frame moldings and configurations on this project to detail extended lip strikes as needed)**, finished to match door hardware set, and as follows:

1. Strikes for Bored Locks and Latches: BHMA A156.2.

2.4 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Bored Locks: BHMA A156.2.
- B. Bored Locks: BHMA A156.2 Grade 2.
 - 1. Available Manufacturers:
 - a. Stanley (STA).
 - b. Pamex.
- C. Compatibility with Key Cylinders: fully warranted for use with Owner-provided 6 or 7 pin SFIC permanent key cylinder cores.

2.5 AUXILIARY LOCKS AND LATCHES

- A. Auxiliary Locks: BHMA A156.5, Grade 2, warranted for use with Owner-provide 6 or 7 pin SFIC permanent key cylinder cores.
 - 1. Available Manufacturers:
 - a. Stanley (STA).
 - b. Pamex.

2.6 KEY CYLINDERS

- A. Key cylinder cores (6 or 7 pin SFIC) will be furnished by the Owner.
- B. Construction Keying: Comply with the following:
 - 1. Construction Cores: Provide (4) keyed brass construction cores so the Contractor can lock up some spaces for their use. Provide plastic disposable thumbturn cores for all of the locks. Provide 4 construction master keys.
 - a. Replace construction cores with permanent cores as directed by Owner.
- C. Supplemental Items: Provide cylinder spacers, collars, and correct cams as needed for proper function of locking devices.

2.7 KEYING

- A. Keying the cores, keys, and cutting keys is provided by Owner.

2.8 SURFACE CLOSERS

- A. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural &

Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

1. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 - b. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
- C. Fasteners: Manufacturer's standard for arms, shoes and brackets.
- D. Mounting Accessories: Provide shoes, brackets, drop plates, spacers, etc., as needed for proper mounting of closers and arms to door and frame.
- E. Spring Size of Units: Provide field-sizable closers, adjustable for spring sizes 1-5, to meet field conditions and requirements for opening force.
- F. Mounting Configuration: Unless otherwise indicated by model number in the hardware sets:
 1. Do not furnish closers capable of being mounted on the corridor side of doors.
- G. Available Manufacturers and Series for Rack and Pinion Surface Closers:
 1. Falcon; an Allegion Company (FAL); SC60A series.
 2. Stanley Commercial Hardware; (STA).

2.9 MECHANICAL WALL AND HINGE PIN STOPS

- A. Stops and Bumpers: BHMA A156.16, Grade 1.
 1. Provide wall stops for doors unless doors cannot swing to them properly; in that case furnish hinge-pin stops (Don-Jo Model 1507).
 2. Properties. Wrought construction with fastener suitable for wall or floor condition.
 3. Available Manufacturers:
 - a. Hager Companies (HAG).
 - b. IVES Hardware; an Allegion Company (IVS).
 - c. Hiawatha (HIW).
 - d. Burns (BRN).
 - e. Rockwood Manufacturing Company (RM).
 - f. Trimco (TRI).

2.10 SILENCERS

- A. Provide silencers for Metal Door Frames: BHMA A156.16, Grade 1; neoprene or rubber, minimum diameter 1/2 inch (13 mm); fabricated for drilled-in application to frame.
- B. Available Manufacturers:
 1. Glynn-Johnson; an Allegion Company (GJ).
 2. Hager Companies (HAG).

3. IVES Hardware; an Allegion Company (IVE).
4. McKinney Products Company; an ASSA ABLOY Group company (MCK).
5. Rockwood Manufacturing Company (RM).
6. Trimco (TBM).

2.11 DOOR GASKETING

- A. General: Provide continuous weather-strip gasketing on exterior hollow metal doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners as indicated by models in hardware sets.
 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame. If hardware is to be attached to the frame and would interfere with the gasketing, then provide hardware compatible gasketing that does not need to be cut for the mounting of hardware.
- B. Requirements per type of rated door provided (these requirements supersede models indicated in hardware sets):
 1. Category A wood doors: provide models indicated in hardware sets.
 2. Category B wood doors: provide Category G&H seals at jambs and meeting edges. If Category H seals are indicated in hardware sets, provide Cat G seals in addition to the Category H seals.
 3. Category A and B hollow metal doors: provide models indicated in hardware sets.
- C. 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.
- D. Smoke-Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke-control ratings indicated, based on testing according to UL 1784.
 1. Provide smoke-labeled gasketing on 20-minute-rated doors and on smoke-labeled doors.
- E. Fire-Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 or UBC Standard 7-2.
 1. Test Pressure: After 5 minutes into the test, neutral pressure level in furnace shall be established at 40 inches (1016 mm) or less above the sill.
- F. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- G. Jamb Gasketing Materials:
 1. Adhesive Seals. As specified in hardware sets or approved equal.
 2. Intumescent: As required.
- H. Available Manufacturers for Jamb Gaskets (provided they provide items with neoprene inserts):
 1. Hager Companies (HAG).
 2. National Guard Products (NGP).
 3. Pemko Manufacturing Co. (PEM).
 4. Reese Enterprises (REE).
 5. Zero International (ZER).

2.12 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- C. **Fasteners: Manufacturer's standard, except as noted in product sections of this specification.**

2.13 FINISHES

- A. Standard: BHMA A156.18, as indicated in door hardware sets.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Mounting Locations:
1. Wall Stops: Locate so that lockset spindle and wall stop share horizontal and vertical centerlines.
 2. **Closers and Overhead Stop/Holders: Template and mount closers and overhead stops for maximum degree of opening before door encounters obstruction or so as to interface with specified wall stops and holders. These functionality requirements override any degree of opening information in the specifications or submittals.**
- C. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- D. **Weatherstrip and Gasketing with Metal Retainers: Fit up as needed for neat appearance with no gaps between retainers or bulbs.**

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
- B. Door Closers:
1. Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
 2. Adjust latch period so that door does not slam nor injure fingers.
 3. Adjust spring power so that door properly latches.
 4. Adjust backcheck to slow door down before hitting stop point so as to prevent damage to closer, arm, door, frame, and fasteners.
- C. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE (on following pages)

Hardware Set 01 – Entry Doors

(3)	Butt Hinge	BB1279 x 4.5 x 4.5	646	HAG
(1)	Deadbolt	QDB281-LC	619	STA
(1)	Permanent Key Cylinder Core, SFCI, 6 or 7 pin: provided by Owner.			
(1)	Passage Set	QCL230A	619	STA
(1)	Closer, Tri-pack	SC60A	689	FAL
(1)	Wall Stop, Convex	236W	619	HAG
(1)	Viewer	1759	626	HAG
(1)	Cat H Adhesive Jamb Seal Set	2525C	CHR	NGP

Note 1: Contract Hardware Supplier to field verify all existing door and frame preps and wall conditions prior to submitting hardware for review, and to make changes based on that survey for proper fit-up, clearances and function.

Note 2: Verify lockset lever design with Owner prior to submitting hardware for review.

Hardware Set 02 – Bedroom and Bathroom Doors

(3)	Butt Hinge	BB1279 x 4.5 x 4.5	646	HAG
	Note: Change hinge base material to non-ferrous for in-swinging bathroom doors so as to prevent rust.			
(1)	Privacy Set	QCL240A	619	STA
(1)	Wall Stop, Convex	236W	619	HAG
	Note: Provide hinge-pin stop if door cannot open properly to hit a wall stop.			
(3)	Frame Silencer	SR64	Grey	IVE

Note 1: Contract Hardware Supplier to field verify all existing door and frame preps and wall conditions prior to submitting hardware for review, and to make changes based on that survey for proper fit-up, clearances and function.

Note 2: Verify lockset lever design with Owner prior to submitting hardware for review.

Hardware Set 03 – Swinging Closet Doors

(3)	Butt Hinge	BB1279 x 4.5 x 4.5	646	HAG
	Note: Change hinge base material to non-ferrous for doors swinging into bathrooms so as to prevent rust.			
(1)	Passage Set	QCL230A	619	STA
(1)	Wall Stop, Convex	236W	619	HAG
	Note: Provide hinge-pin stop if door cannot open properly to hit a wall stop.			
(3)	Frame Silencer	SR64	Grey	IVE

Note 1: Contract Hardware Supplier to field verify all existing door and frame preps and wall conditions prior to submitting hardware for review, and to make changes based on that survey for proper fit-up, clearances and function.

Note 2: Verify lockset lever design with Owner prior to submitting hardware for review.

Hardware Set 04 – Bi-folding Closet Doors

(1)	Bifold Track, 4 leaves	9870-72	628	HAG
(2)	Wood Knob	9558		HAG

Note 1: Contract Hardware Supplier to field verify all existing frame preps and wall conditions prior to submitting hardware for review, and to make changes based on that survey for proper fit-up, clearances and function.

Note 2: Verify track and knob designs with Owner prior to submitting hardware for review.

END OF SECTION 087100