

**PART I - GENERAL**

**1.01 WORK INCLUDED**

A. The work in this section shall include furnishing of all items of finish hardware as hereinafter specified or obviously necessary to complete the building, except those items that are specifically excluded from this section of the specification.

**1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Hollow Metal Doors and Frames
- B. Aluminum Doors and Frames
- C. Wood Doors and Frames

**1.03 DESCRIPTION OF WORK**

- A. Furnish labor and material to complete hardware work indicated, as specified herein, or as may be required by actual conditions at building.
- B. Include all necessary screws, bolts, expansion shields, other devices, if necessary, as required for proper hardware application. The hardware supplier shall assume all responsibility for correct quantities.
- C. Hardware shall meet the requirements of Federal, State and Local codes having jurisdiction over this project, notwithstanding any real or apparent conflict therewith in these specifications.
- D. Fire-rated openings:
  - 1. Provide hardware for fire-rated openings in compliance with A.I.A. (NBFU) Pamphlet No. 80, NFPA Standards NO. 101, UBC 702 (1997) and UL10C. This requirement takes precedence over other requirements for such hardware. Provide only hardware that has been tested and listed by UL for the types and sizes of doors required, and complies with the requirements of the door and door frame labels.
  - 2. Where panic exit devices are required on fire-rated doors, provide supplementary marking on door UL label indicating Fire Door to be equipped with fire exit hardware and provide UL label on exit device indicating Fire Exit Hardware.
- E. Fasteners:
  - 1. Hardware as furnished shall conform to published templates generally prepared for machine screw installation.
  - 2. Furnish each item complete with all screws required for installation. Typically, all exposed screws installation.
  - 3. Insofar as practical, furnished concealed type fasteners for hardware units that have exposed screws shall be furnished with Phillips flat head screws, finished to match adjacent hardware.
  - 4. Door closers and exit devices to be installed with closed head through bolts (sex bolts).
- F. Exterior openings
  - 1. Provide hardware for hurricane openings in compliance with local jurisdiction. This requirement takes precedence over other requirements for such hardware. Provide only hardware that has been tested and listed by local authority for the types and sizes of doors required, and complies with the requirements of the door and door frame. Coordinate Section (087100) Finish Hardware with the Hollow Metal Doors and Frames (081100) and Aluminum Doors and Frames (082100).

**1.04 QUALITY ASSURANCE**

- A. The supplier to be a directly franchised distributor of the products to be furnished and have in their employ an AHC (Architectural Hardware Consultant). This person is to be available for consultation to the architect, owner and the general contractor at reasonable times during the course of work.
- B. The finish hardware supplier shall prepare and submit to the architect six (6) copies of a complete schedule identifying each door and each set number, following the numbering system and not creating any separate system himself. He shall submit the schedule for review, make corrections as directed and resubmit the corrected schedule for final approval. Approval of schedule will not relieve Contractor of the responsibility for furnishing all necessary hardware, including the responsibility for furnishing correct quantities.
- C. No manufacturing orders shall be placed until detailed schedule has been submitted to the architect and written approval received.
- D. After hardware schedule has been approved, furnish templates required by manufacturing contractors for marking proper provisions in their work for accurate fitting, finishing hardware setting. Furnish templates in ample time to facilitate progress of work.
- E. Hardware supplier shall have an office and warehouse facilities to accommodate the materials used on this project. The supplier must be an authorized distributor of the products specified.
- F. The hardware manufacturers are to supply both a pre-installation class as well as a post-installation walk-thru. This is to insure proper installation and provide for any adjustments or replacements of hardware as required.

**1.05 DELIVERY, STORAGE, AND HANDLING**

- A. Wrap, protect finishing hardware items for shipment. Deliver to manufacturing contractors hardware items required by them for their application; deliver balance of hardware to job; store in designated location. Each item shall be clearly marked with its intended location.

**1.06 WARRANTY**

- A. The material furnished shall be warranted for one year after installation or longer as the individual manufacturer's warranty permits.
- B. The manufacturer against failure due to defective materials and workmanship shall warrant overhead door closers in writing for a period of ten (10) years. Commencing on the Date of Final Completion and Acceptance, and in the event of failure, the manufacturer is to promptly repair or replace the defective with no additional cost to the Owner.

**PART II - PRODUCTS**

**2.01 ACCEPTABLE MANUFACTURERS**

- A. To the greatest extent possible, obtain each kind of hardware from only one manufacturer.
- B. All numbers and symbols used herein have been taken from the current catalogues of the following manufacturers:

PRODUCT	ACCEPTABLE MANUFACTURER	ACCEPTABLE SUBSTITUTE
1) Hinges	Ives	Stanley, Bommer
2) Locks & Latches	Schlage Locks	None
3) Door Closers	LCN	Falcon
4) Exit Devices	Von Duprin	Falcon
5) Wall Stops/Floor Stops, Flush bolts	Ives	Burns, Trimco
6) Kick Plates	Ives	Burns, Trimco
7) Threshold/Weather-strip	Zero	National Guard
8) Silencers	Ives	Trimco

- C. If material manufactured by other than that specified or listed herewith as an equal, is to be bid upon, permission must be requested from the architect seven (7) days prior to bidding. If substitution is allowed, it will be so noted by addendum.

**2.02 FINISH OF HARDWARE:**

- A. Exterior Hinges to be Prime Coat (USP), Interior Hinges to be Oil Rubbed Bronze (10B), Exit Door Closers to be Dark Bronze Powder Coat, Locks to be Oil Rubbed Bronze (10B), Exit Devices to be Dark Bronze (10B), Overhead Holders to be Dark Bronze (10B), Flat Goods to be Oil Rubbed Bronze (10B), and the Thresholds to be Mill Finish Aluminum.

**2.03 HINGES AND PIVOTS:**

- A. Exterior butts shall be Stainless Steel. Butts on all out swinging doors shall be furnished with non-removable pins (NRP).
- B. Interior butts shall be as specified.
- C. Doors 5' or less in height shall have two (2) butts. Furnish one (1) additional butt for each 2" in height or fraction thereof. Dutch door shall have two (2) butts per leaf.

**2.04 KEYING:**

- A. Equip locks and cylinders with Schlage Everest cylinders keyed to new master key system as directed by owner and Architect.
- B. All bitting shall be issued by lock manufacturer per owners instructions.
- C. Provide Two (2) each change keys per lock and Six (6) each grand master, master keys, construction master keys.
- D. Hardware supplier to provide temporary cylinders or cores during the construction phase. The contractor is to change out the temporary cores for the permanent cores as directed by owner.

**2.05 LOCKSETS:**

- A. Locksets shall be cylindrical type, unless specified otherwise, in S Flair, ND Rhodes Series, and L Asti Lever designs as manufactured by Schlage Lock Company.

**2.06 EXIT DEVICES:**

- A. All devices shall be Von Duprin 98 Series in types and functions specified. All devices must be listed under "Panic Hardware" in accident equipment list of Underwriters Laboratories. All labeled doors with "Fire Exit Hardware" must have labels attached and be in strict accordance with Underwriters Laboratories.
- B. All exit devices shall be tested to ANSI/BHMA A156.3 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 1,000,000 cycles must be provided.
- C. All surface strikes shall be roller type and come complete with a plate underneath to prevent movement. And shall be provided with a dead-latching feature to prevent latchbolt tampering.

**2.07 DOOR CLOSERS:**

- A. Closers shall be LCN 4041, LCN 1461 series having non-ferrous covers, forged steel arms separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring force. Closers shall be furnished with parallel arm mounted on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Furnish with non-hold open arms unless otherwise indicated.
- B. Door closer cylinders shall be of high strength cast iron construction to provide low wear operating capabilities of internal parts throughout the life of the installation. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified testing laboratory.
- C. Door closers shall utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees Fahrenheit to -30 degrees Fahrenheit, without requiring seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with the standards UBC 7-2 (1997) and UL 10C.
- D. Door closers shall incorporate tamper resistant non-critical screw valves of V-slot design to reduce possible clogging from particles within the closer. Closers shall have separate and independent screw valve adjustments for latch speed, general speed, and hydraulic backcheck. Backcheck shall be properly located so as to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location to protect the door frame and hardware from damage. Pressure relief valves (PRV) are not acceptable.

**2.08 TRIM AND PLATES:**

- A. Kick plates, mop plates, and armor plates, shall be .050 gauge with US10B finish. Kick plates to be 8" high, mop plates to be 4" high. All plates shall be two (2) inches less full width of door.
- B. Push plates, pull plates, door pulls, and miscellaneous door trim shall be shown in the hardware schedule.

**2.09 DOOR STOPS:**

- A. Doorstops shall be furnished for all doors to prevent damage to doors or hardware from striking adjacent walls or fixtures. Wall bumpers equal to Ives WS407 Series are preferred, but where not practical furnish floor stops equal to Ives FS436 or FS438 series. Where conditions prohibit the use of either wall or floor type stops, furnish surface mounted overhead stops equal to Glynn Johnson, 450 Series.

**2.10 THRESHOLDS AND WEATHERSTRIP:**

- A. Thresholds and weather-strip shall be as listed in the hardware schedule.

**2.11 DOOR SILENCERS:**

- A. Furnish rubber door silencers equal to Ives SR64 for all new interior hollow metal frames, (2) per pair and (3) per single door frame.

**PART III - EXECUTION**

**3.01 INSTALLATION:**

- A. All hardware shall be applied and installed in accordance with the Finish Hardware schedule. Care shall be exercised not to mar or damage adjacent work.
- B. Contractor to provide a secure lock-up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses both before and after installation.
- C. No hardware is to be installed until the hardware manufacturers have provided a pre-installation class to insure proper installation of the specified product. A post installation inspection by a manufacturer's representative will be provided to insure proper installation.

**3.02 ADJUSTING AND CLEANING:**

- A. Contractor shall adjust all hardware in strict compliance with manufacturer's instructions. Prior to turning project to owner, contractor shall clean and make any final adjustments to the finish hardware.

**3.03 PROTECTION:**

- A. Contractor shall protect the hardware, as it is stored on construction site in a covered and dry place.
- B. Contractor shall protect exposed hardware installed on doors during the construction phase.

**3.04 HARDWARE SCHEDULE:**

- A. The following schedule is furnished for whatever assistance it may afford the contractor, do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware group, provide door or item with hardware same as required for similar purposes. Quantities listed are for each pair of doors or for each single door.

**Hardware Group No. 03**  
For use on door(s):

04-102

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5 NRP	600 IVE
1	EA STOREROOM LOCK	NS69PD RINGO	613 SCH
1	EA OVERHEAD HOLDER	924H	613 GLY
1	SET WEATHERSTRIP	PS-074 SINGLE	BLK STE
1	SET FAS-SEAL DR BOTTOM	8424 30" (1 EACH)	GRY STE

1 EA THRESHOLD 65A 36" MSLA-10 AL ZER

BASED ON NOA 10-0209.07 HOLLOW METAL FOR IMPACT

**Hardware Group No. 04**  
For use on door(s):

02-104 03-105

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5 NRP	600 IVE
1	EA STOREROOM LOCK	LS486P AST/JAVA 643E	643 SCH
1	EA SURFACE CLOSER	1461 CUSH	695 LCN
1	SET WEATHERSTRIP	PS-074 SINGLE	BLK STE
1	SET FAS-SEAL DR BOTTOM	8424 30" (1 EACH)	GRY STE
1	EA THRESHOLD	65A 36" MSLA-10	AL ZER

BASED ON NOA 10-0209.07 HOLLOW METAL FOR IMPACT AND FIRE-RATING

**Hardware Group No. 05**  
For use on door(s):

06-103 05-105

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5 NRP	600 IVE
1	EA FIRE EXIT HARDWARE	98E0-F 5NB	313 VON
1	EA SURFACE CLOSER	1461 CUSH	695 LCN
1	SET WEATHERSTRIP	PS-074 SINGLE	BLK STE
1	SET FAS-SEAL DR BOTTOM	8424 30" (1 EACH)	GRY STE
1	EA THRESHOLD	65A 36" MSLA-10	AL ZER

BASED ON NOA 10-0209.07 HOLLOW METAL FOR IMPACT AND FIRE-RATING EXIT ONLY

**Hardware Group No. 06**  
For use on door(s):

05-103

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461 CUSH	695 LCN
1	EA KICK PLATE	8400 8" X 34"	613 IVE
3	EA SILENCER	SR64	GRY IVE

**Hardware Group No. 07**  
For use on door(s):

07-571-2FL 07-572-2FL

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461	695 LCN
1	EA WALL STOP	WS407CCV	613 IVE
3	EA SILENCER	SR64	GRY IVE

**Hardware Group No. 08**  
For use on door(s):

06-302

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461 RW/PA	695 LCN
1	EA KICK PLATE	8400 8" X 34"	613 IVE
1	EA WALL STOP	WS407CCV	613 IVE
3	EA SILENCER	SR64	GRY IVE

**Hardware Group No. 09**  
For use on door(s):

09-202 09-205 09-207 09-211 09-212 09-213 09-214 09-215 09-216 09-203 09-206 09-207 09-210 09-217 09-218 09-219

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461 RW/PA	695 LCN
1	EA KICK PLATE	8400 8" X 34"	613 IVE
1	EA WALL STOP	WS407CCV	613 IVE
3	EA SILENCER	SR64	GRY IVE

**Hardware Group No. 10**  
For use on door(s):

16-209

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461	695 LCN
1	EA WALL STOP	WS407CCV	613 IVE

**Hardware Group No. 11**  
For use on door(s):

19-304 19-204

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA CLASSROOM LOCK	S70PD FLA	613 SCH
1	EA SURFACE CLOSER	1461 H	695 LCN
1	EA WALL STOP	WS407CCV	613 IVE

**Hardware Group No. 12**  
For use on door(s):

10-218 10-234

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA STOREROOM LOCK	S80PD FLA	613 SCH
1	EA SURFACE CLOSER	1461	695 LCN
1	EA WALL STOP	WS407CCV	613 IVE

**Hardware Group No. 13**  
For use on door(s):

A-101 10-312

Provide each PR door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
1	EA POWER TRANSFER	EPT10	313 FAL
1	EA PANIC HARDWARE	HH-EL1492NL-OP	108 FAL
1	EA PANIC HARDWARE	HH1490CO	108 FAL
1	EA RIM CYLINDER	20-0574CX	613 SCH
1	EA CORE ONLY	23-030	606 SCH
2	EA SURFACE CLOSER	4041	695 LCN
2	EA MOUNTING PLATE	4040-18TJ	695 LCN
1	EA POWER SUPPLY	PS893 X 871-2	695 LCN
1	SET CARD READER	BY SECURITY SECTION DIVISION 28	FAL

**Hardware Group No. 14**  
For use on door(s):

16-313

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA STOREROOM LOCK	S80PD FLA	613 SCH
1	EA SURFACE CLOSER	1461 HUSH	695 LCN

**Hardware Group No. 15**  
For use on door(s):

10-221

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA STOREROOM LOCK	S80PD FLA	613 SCH
1	EA FLOOR STOP	FS441	613 IVE

**Hardware Group No. 16**  
For use on door(s):

11-219 11-220 11-325

Provide each SGL door(s) with the following:

Quantity	Description	Model Number	Finish Mfr
4	EA HINGE	5BB1 4.5 X 4.5	640 IVE
1	EA PRIVACY SET	S400 FLA	613 SCH
1	EA SURFACE CLOSER		