

## DOORS, FRAMES AND HARDWARE

DOCUMENT NUMBER: 08700

APPLICATION: ELEMENTARY, MIDDLE AND HIGH SCHOOL

### DATE OF ISSUE:

- 06-04-15 - **General revisions, added face sheet form**
- 03-05-15 - **General revisions, added door and frame design info, deleted interchangeable cores, added gate information, revised keying requirements, etc.**
- 07-26-06 - Added note re: authorization
- 10-12-05 - Revised key handling requirements, submittal, keying requirements
- 11-10-04 - Added requirement for bitting list
- 09-08-04 - Deleted requirement for mineral core at fire rated wood doors
- 07-22-04 - Miscellaneous changes, deleted reference to key vault, added door notes
- 06-16-04 - Changed classroom lockset
- 03-30-04 - Revised notes, removed meeting requirement
- 01-15-03 - revised note below
- 08-09-02 - revised
- 04-26-01 - revised
- 05-11-00 - revised
- 03-16-00 - first issued

### NOTES:

Doors, frames and finish hardware are to be provided in accordance with the following guidelines.

**THE DESIGN GUIDES ISSUED HEREIN ARE PROVIDED FOR THE USE OF THE DESIGN PROFESSIONAL THEY ARE NOT TO BE INCLUDED IN THE PROJECT MANUAL.**

**THE SPECIFICATION ISSUED HEREIN IS NOT TO BE INCLUDED IN A PROJECT MANUAL WITHOUT EDITING THE LANGUAGE FOR THE SPECIFIC PROJECT. DELETE REQUIREMENTS THAT DON'T APPLY AND ADD THE PROJECT-SPECIFIC HARDWARE SCHEDULE AND ANY OTHER PROJECT-SPECIFIC REQUIREMENTS. THIS IS ESPECIALLY IMPORTANT ON REMODELING, RENOVATION AND ADDITION PROJECTS.**

### ATTACHMENTS:

Door and Frame Design Guide, dated 03-05-15  
Finish Hardware Design Guide, dated 06-04-15  
Finish Hardware Specification, dated 06-04-15  
Schlage Primus Face Sheet

## DOORS AND FRAMES – DESIGN GUIDE

03-05-15

- A. All exterior openings required to meet either impact or wind load tests shall be tested as assemblies with doors, frames and finish hardware. Provide Dade County NOA number or Florida Department of Community Affairs assembly number.
- B. **Exterior steel doors and transoms** are to have face sheets of **16 gauge**, hot-dipped galvanized steel having an A-60 zinc-iron alloy coating conforming to ASTM A653. Butt (hinge) reinforcing shall be 7 gauge steel plate. Tops shall have flush, full width, 16 gauge zinc coated steel filler channel. Bottoms and stile edges shall be full width and height, 16 gauge, zinc coated steel channels. Seams shall be welded and ground smooth
- C. **Interior steel doors and transoms** are to have face sheets of **18 gauge**, hot-dipped galvanized steel having an A-60 zinc-iron alloy coating conforming to ASTM A653. Butt (hinge) reinforcing shall be 7 gauge steel plate. Tops, bottoms and stile edges shall be full width and height, 16 gauge, zinc coated steel channels. Seams shall be welded and ground smooth.
- D. Frames, interior and exterior, are to be 14 gauge, hot-dipped galvanized steel having an A-60 zinc-iron alloy coating conforming to ASTM A653. Butt (hinge) reinforcing shall be 7 gauge steel plate.
- E. Exterior frames are to be back coated with a bitumastic coating or equal product to inhibit corrosion. Coating may either be factory or field applied.
- F. Hardware reinforcements are to conform to the minimum standard gauges as listed in SDI-100. Reinforcements shall be factory welded in place.
- G. Closers and exit devices are to be through-bolted at all doors, both steel and wood, as noted in the hardware section of this standard.
- H. Doors and frames are to be cleaned and chemically treated to ensure maximum paint adhesion and receive a factory applied, rust-inhibitive, baked-on metal primer.
- I. Doors and/or frames for labeled openings are to have a factory-applied stamped or embossed metal label from Warnock Hersey or Underwriters Laboratory. Do not paint over such labels.
- J. Wood doors are to be flush, 5-ply hot pressed, with solid cores of wood blocks (staves) or structural composite (laminated-strand) lumber, and are to be used for interior openings only.
- K. Wood doors needing a mineral core to achieve a fire rating are to have approved blocking provided at all hardware locations.
- L. Faces on wood doors to receive an opaque finish are to be closed-grain hardwood. Opaque finishes may be factory or field applied. Transparent finishes are to be factory applied.

- M. Unless specifically approved otherwise, doors are to **either** open 90 degrees against a perpendicular wall, **or** a full 180 degrees. Door frames for outswinging doors are to be set flush with the face of the exterior wall, more or less, so that doors can swing 180 degrees without exerting **any** pressure on the hinges. Doors shown on the plans as 180 degree doors will be required to swing the full 180 degrees. Problems that occur due to incorrect detailing will be corrected at no expense to the Owner. Floor stops and overhead stops are not acceptable means of limiting a door swing.
  
- N. Where vision lights are provided in exterior HM doors, provide narrow lights unless a larger light is specifically approved. Larger openings weaken the door and cause hardware failures.

## FINISH HARDWARE – DESIGN GUIDE

06-04-15

- A. All hardware specified shall meet applicable code requirements. As requirements often change, the Design Professional is expected to bring to the Owner's attention any apparent conflicts between code requirements and the hardware listed in this standard. The requirement for code compliance cannot be delegated to the GC / CM.
- B. The architect is responsible for inserting a complete, correct, and code compliant hardware schedule into the Project Manual. The burden of design is not to be passed on to the bidders. The schedule is to include the **room names** (matching the plans exactly) as well as the opening numbers (example: "Opening 201 – Classroom to Corridor"). The following notes are provided to help you to avoid common mistakes.
- C. All instructional spaces are to be provided with Schlage lockset type **L9071**, which is a **classroom security function** lockset providing key lock capability from inside the room. Corbin Russin CR ML2072 is an approved equal product.

Note: these locks are generally left in the locked position to guard against unauthorized entry; however, they may be left in the unlocked position to facilitate custodial work, open house events, etc. In the event that the lock is inadvertently left in the unlocked position, this lockset allows the teacher to key lock it from inside the room in a lockdown situation. The inside lever always allows immediate exit.

- D. Offices, Conference Rooms, Teacher Planning Areas, Storage Rooms (all), Faculty Dining, Teacher Workrooms, Kiln Rooms, Group Toilets, Custodial Closets, Central Receiving, etc.), Kitchen doors and similar spaces are to be provided with Schlage lockset type **L9070**, which is similar to the above lockset but without the ability to key lock from inside the room.

Note: These are rooms that school staff may choose to leave normally locked or normally unlocked based on individual school needs. The inside lever always allows immediate exit.

- E. Mechanical Rooms, Electrical Rooms, Elevator Equipment Rooms and individual Custodial Closets are to be provided with **Store Room function** locksets equal to Schlage **L9080**.

Note: the outside lever on a store room lockset is always inoperative. A key is always needed to open the door. The inside lever always allows immediate exit. These are used on doors that must remain secured at all times.

- F. Provide a closer on the Dry Storage Room door, and any other interior doors where conditioned rooms open to unconditioned rooms.
- G. Single Occupant Toilet Rooms at elementary schools which open directly onto classrooms are to have passage hardware, not privacy sets.
- H. Provide armor plates all kitchen doors.

I. Provide hardware as indicated below:

| PRODUCT                   | BASIS OF DESIGN          | ACCEPTABLE ALTERNATE   | ACCEPTABLE ALTERNATE |
|---------------------------|--------------------------|------------------------|----------------------|
| <b>Hinges</b>             |                          |                        |                      |
| Interior                  | Stanley F179             | Ives 5PB1              | McKinney MP79        |
| Interior with closer      | Stanley FBB168           | Ives 5BB1HW            | McKinney MPB68       |
| Exterior                  | Stanley FBB199           | Ives 5BB1HW            | McKinney MPB99       |
| <b>Pivots</b>             | Ives                     | Rixon                  | As approved          |
| <b>Locksets</b>           |                          |                        |                      |
| Mortise                   | Schlage series L9000 03A | Corbin Russwin         |                      |
| Cylindrical               | Schlage                  | Corbin Russwin         |                      |
| <b>Cylinders</b>          |                          |                        |                      |
| Conventional 6-pin        | Schlage                  | Corbin Russwin         |                      |
| High Security             | Schlage Primus, Level 3G | None (no substitution) |                      |
| <b>Exit Devices</b>       |                          |                        |                      |
| Doors                     | Von Duprin 99 series     | None (no substitution) |                      |
| Gates                     | Von Duprin 99 series     | None (no substitution) |                      |
| <b>Removable Mullions</b> | Von Duprin KR4954/KR9954 | None (no substitution) |                      |
| <b>Closers</b>            |                          |                        |                      |
| Doors                     | LCN 4000 series          | None (no substitution) |                      |
| Gates                     | Corbin Russwin DC6210    | As approved            |                      |
| <b>Vertical Rods</b>      | Not used                 |                        |                      |

J. Provide armor plates all kitchen doors.

K. **Large Format Interchangeable cores** are not allowed except at exit devices and removable mullions.

L. Overhead stops and floor stops are not acceptable as means of limiting door swings. See Door and Frame Design Guide.

M. Use of overhead hold-open devices in conjunction with door closers is discouraged. Review specific requirements with the Owner's representative.

N. Use of exit devices which include vertical rods is disallowed. Provide a center mullion at double doors, removable if needed.

O. **Additions, Renovations or Remodeling at Existing Schools:** Where hardware is not being replaced schoolwide and existing locksets will remain, new locks shall be keyed into the predominant existing master key system. For example, if an existing school utilizes a keying system that is predominantly Corbin Russwin, then a Schlage Primus system would be unacceptable for use in a new building addition. All cut keys and all key blanks shall be of the same predominant type used throughout the school. The Design Professional is to request information related to existing key systems from the Owner's Representative.

- P. All lever handles to be stainless steel.
- Q. The following requirements apply to Security Gates, defined as decorative aluminum or steel gates which separate student occupied areas from public areas of the site.
- R. Closers are required on security gates. Closers are to be reversible non-handed type. Spring hinges are not an acceptable means of closing gates. An overhead rail is required for stability, no exceptions.
- S. To ensure consistency and correct keying, security gate hardware is to be specified in the finish hardware section of the Project Manual and scheduled on the architect's hardware schedule. The Fencing and Gates specification is to refer to the finish hardware specification for information about the hardware.
- T. Design Professionals: determine which of the following conditions applies to your project, and specify keying requirements for new security gates accordingly:

At sites where the key safe is installed on the public side of the security gate, so that emergency responders can retrieve the key before encountering a locked gate, gates are to be keyed to the school's grandmaster key system.

At schools where the key safe is located inside of the security gate, any new gate locks must be keyed to match the district-wide gate key, bitting number #52632.

- U. Provide rim cylinder type locks on gates.
- V. The following specification is provided as a guide. Modify it as required for specific project requirements.

## FINISH HARDWARE SPECIFICATION

06-04-15

### PART 1 – GENERAL

#### 1.1 RELATED REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. This section includes:
  - Door Hardware
  - Gate Hardware
- C. Related work specified elsewhere:
  - Section:
  - Section:
  - Section:

#### 1.2 SUMMARY

- A. Work includes furnishing of all items of finish hardware as hereinafter specified or as required to for a complete door hardware installation, except those items that are specifically excluded from this Section.
- 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. Include all hardware required for the complete and functional operation and control of all doors shown on the plans, whether or not included on the finish schedule.
- D. Each type of hardware is to be purchased from a single manufacturer.
- E. A hardware schedule is included at the end of this section, which includes the opening numbers and room names which are to be used on the hardware Supplier's submittal.
- F. Definitions:
  - 1) The term "Supplier" refers to the subcontractor who is awarded the contract to supply hardware materials.
  - 2) The term "Installer", "General Contractor" (GC) and "Construction Manager" (CM) are interchangeable terms referring to the party responsible for the hardware installation.
  - 3) The term "Owner" refers to the School District of Hillsborough County. The term "Owner's Representative" refers to the Project Coordinator identified in the Design and Construction Agreements.

### 1.3 QUALITY ASSURANCE

- A. The Supplier is required to be an authorized distributor of the specified products.
- B. Prior to ordering any hardware, the Supplier is required to make a detailed submittal to the Design Professional for approval. The Design Professional will provide a courtesy copy of the approved submittal to the Owner's representative for review.
- C. The submittal is to include the following:
  - 1) Hardware schedule identifying each door and each set number, following the numbering system on the plans and not introducing a separate system. The schedule shall refer to the doors by room name as well as number. The schedule is to include all doors shown on the plans, highlighting any that may be omitted from the architect's hardware schedule.

Approval of schedule will not relieve Contractor of the responsibility for furnishing all necessary hardware and components.

- 2) Include manufacturer's data and cut sheets for each item of door hardware. Include information sufficient to exhibit compliance with requirements.
- 3) Keying Schedule: Submit separate schedule indicating clearly the proposed keying of locks.

The keying schedule is to include the opening number, lockset number, and room name. Two versions are to be provided to facilitate review:

- a. Sorted in order of room number
- b. Sorted in order of key number

- D. Before hardware installation, Contractor shall schedule a hardware installation seminar, specifically for locksets, closers, exit devices and overhead stops. Manufacturer's representative of the above products shall present the seminar. Seminar is to be conducted at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors.

Training will include use of installation manuals, hardware schedule, templates and physical products samples. . No Finish Hardware Items shall be installed on the Project until this pre-installation class has been held

The lock, exit device and door closer manufacturer's representative shall complete a post installation review for proper adjustment and installment of locks, exit devices and closers prior to building turnover to occupancy. Any deficiencies shall be reported to the Design Professional within 7 days.

- E. The hardware manufacturer's representative shall ensure that the Owner's keying system is maintained, and shall ensure that the hardware is properly installed and adjusted. The representative shall conduct a post-installation inspection. Any deficiencies shall be reported to the Design Professional within 7 days.



- F. The finish hardware Supplier shall submit instructions and templates for installation to the Installer. Wherever needed, furnish templates to fabricators of other work which is to receive door hardware (ie gates). Indicate by transmittal that applicable data has been distributed to the Installers and fabricators as needed.

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. The Owner designates the GC / CM as the authorized party to order hardware, keys and bitting lists and to take delivery of same. For Schlage Primus hardware orders, the Owner's representative will execute a face sheet which will include the School District's existing Primus number. The face sheet authorizes the GC / CM to place the order.
- B. The Contractor is required to complete the Primus Face Sheet form included at the end of this section, and present it to the Owner's representative for execution. Instructions are as follows:
  - 1) Complete **all fields** except for the Existing Primus Number, which will be entered by the Owner's representative.
  - 2) Enter the Contractor's Name and Address in all four Shipping Address fields. Please note: materials that are purchased through the Owner's Direct Purchase program must be shipped the job site in accordance with terms of the purchase order and State of Florida Procurement regulations. The Contractor assumes all risk for any redirected shipments.
- C. Provide appropriate storage conditions.
- D. A copy of the approved hardware schedule shall accompany each hardware shipment.

### PART 2 – PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS

- A. Furnish products from manufacturers listed below:
  - Hinges: Stanley, **Ives**, McKinney
  - Pivots: Ives, Rixon or approved equal
  - Locksets: **Schlage L9000 series**, Corbin Russwin
  - Cylinders – Conventional: Schlage, Corbin Russwin
  - Cylinders – High Security: Schlage Primus
  - Exit Devices: Von Duprin
  - Removable Mullions: Von Duprin
  - Closers – Doors: **LCN 4000 series, no substitution**
  - Closers – Gates: Corbin Russwin

#### 2.2 LOCK CYLINDERS

- A. Locksets are to be mortise type unless otherwise indicated.
- B. Provide conventional 6-pin cylinders at all openings not specifically identified to have high security locksets (Primus).

- C. Locks and cylinders on doors specifically indicated below shall be Schlage Primus, Level (3).
  - 1) All exterior doors
  - 2) Records Room in Administrative Area
  - 3) Dry Storage Room in Kitchen Area
  - 4) Principal's Office in Administrative Area
- D. **Large Format Interchangeable core cylinders** are not acceptable, except at exit device trim and key removable mullions.
- E. Gates are to have rim cylinder type locks.

### 2.3 KEYING

- A. All locks are to be keyed into the campus grand-master key system, except the following doors which are to be single keyed different:
  - Records Room in Administrative Area
  - Dry Storage Room in Kitchen Area
- B. Each individual building identified on the plans with a building number is to be master keyed, so that every interior and exterior lock within a building is keyed to the building master except as noted in the previous item.
- C. The following doors are to be **keyed alike** (referred to as the Custodial Key):
  - Mechanical, Electrical and Elevator Equipment Rooms
  - Toilet Rooms: Group Toilet Rooms, Faculty/Staff Toilet Rooms
  - Custodial Rooms: Custodial Closets, Central Receiving, Equipment Storage, Flammable Storage, Custodial Office
  - Removable MullionsThese rooms are also to be keyed to their respective building master key.
- D. The following rooms are to be cross-keyed, so as to operate on any key in the system:
  - Teacher Planning Areas
  - Faculty Dining Room
- E. Classrooms that are paired and connected by an open passageway (no door) are to be keyed alike. Otherwise, each instructional space is to have a separate change key.
- F. Material Storage Rooms, Laundry Rooms, Teacher Planning Rooms and similar spaces which open directly onto an instructional space are to be keyed alike with the instructional space.
- G. **Keying shall be by lock manufacturer, and permanent records shall be kept.**
- H. Locks at exterior gates shall be keyed alike.
- I. **Stamp all keys with the key symbol/group (e.g., "GGM" on great grand master, "A" on grand master, "AA" on master keys and "AA1" on change keys) and stamp each master key "DO NOT DUPLICATE.**

- J. Provide keys in quantities noted below:
- 1) Cylinder change keys: 5 **per lock** (example: where 2 doors are keyed alike, 10 key copies are required).
  - 2) Master keys:  
15 (elementary and middle schools)  
20 (high schools)
  - 3) Grandmaster keys:  
15 (elementary and middle schools)  
20 (high schools)
  - 4) Control keys, where applicable: 4 each
- K. During construction, provide construction keying at all exterior doors and additionally as directed by the GC / CM. Construction keying shall be achieved with a master-keying feature that permits deactivating of construction keys without cylinder removal.
- L. **[Design Professional: Include option 1 for new school sites and existing sites where the key safe is located outside of the gates, accessible to emergency responders. Include option 2 at sites where the key safe is located inside of the gates]**
- 1) Gates are to be Primus keyed into the school's grandmaster key system.
  - 2) Gates are to be keyed to the school district's master gate key. The bitting number is #52632.

## 2.4 FASTENERS

- A. **Attach all items of finish hardware to the doors, frames, walls, etc. with fasteners furnished and required by the manufacturer of the item.**
- B. Provide concealed fasteners where practical. For butts (hinges) or other hardware requiring exposed screws, provide flat-head Phillips screws, countersunk and finished to match the hardware.
- C. At all doors, closers and exit devices shall be installed with closed-head through bolts (sex bolts). Fastening methods that rely on internal reinforcing are not acceptable.

## 2.5 KEY CONTROL SYSTEM

- A. Provide a wall-mounted metal cabinet equipped, minimum size equal to Lund model 1203 (elementary and middle schools) and Lund model 1205 (high schools), with a two-tag system. Key cabinet capacity shall allow for minimum 150% expansion.

- B. Mount inside of the cabinet a five-way, cross-indexed catalog identifying the following:
  - 1) Room Number / Building Number
  - 2) Room Name
  - 3) Key symbol/group
  - 4) Hook number
  - 5) Bitting
- C. Mount sign mounted on the inside of the cabinet door as described in the signage standard.

## 2.6 HINGES AND PIVOTS

- A. Exterior butts shall be Stainless Steel. Butts on all out swinging doors shall be furnished with non-removable pins (NRP). Supply standard weight 4.5 x 4.5 hinges for doors up to 40", supply heavy weight 4.5 x 4.5 hinges for doors 42" or wider, or as specified in Hardware Sets.
- B. Interior butts shall be steel. Supply standard weight 4.5 x 4.5 hinges for door up to 40", supply heavy weight 4.5 x 4.5 hinges for doors 42" or wider, or as specified in Hardware Sets.
- C. Doors 5' or less in height shall have two (2) butts. Furnish one (1) additional butt for each 2'6" in height or fraction thereof.

## 2.6 EXIT DEVICES

- A. 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. All pairs of doors to be supplied with rim type devices and removable mullions and all single doors to be supplied with rim devices
- B. A written certification showing successful completion of a minimum 1,000,000 cycles tested to BHMA/ANSI A156.3 test requirements by a BHMA certified testing laboratory shall be submitted upon request
- C. All surface strikes shall be roller type and come complete with plate underneath to prevent movement. All devices shall be provided **with dead-locking latchbolts to ensure security.**
- D. Exit devices shall be satin chrome. Powder coated exit devices and components are not acceptable.

## 2.7 CLOSERS

- A. All closers shall have non-ferrous covers, forged steel arms, separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50 percent increase in spring power.

- B. 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 where shown on plans. Furnish with non-hold open arms unless specifically approved.
- C. 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. A written certification showing successful completion of a minimum of 10,000,000 cycles must be provided.
- D. 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.
- E. 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. To protect the door, frame and hardware from damage, backcheck shall be properly set so as to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location. Pressure relief valves (PRV) are not acceptable.

## 2.8 TRIM AND PLATES

- A. Kick plates, mop plates and armor plates shall be .050 gauge with 32D finish. Kick plates to be 8" high, mop plates to be 4" high, armor plates to be 36" high. All plates shall be two (2) inches less full width of door and beveled on all four (4) edges.
- B. Push plates, pull plates, door pulls, and miscellaneous door trim shall be provided as required by the hardware schedule at the end of this section.

## 2.9 DOOR STOPS

Door stops shall be furnished for all doors to prevent damage to doors or adjacent walls and fixtures. Wall bumpers are required, properly reinforced where mounted on surfaces other than masonry.

## 2.10 THRESHOLDS AND WEATHERSTRIPPING

Thresholds and weather-strip shall be provided as required in the hardware schedule at the end of this section.

## 2.11 DOOR SILENCERS

Furnish rubber door silencers as required in the hardware schedule at the end of this section.

## 2.12 HARDWARE FINISH

Exterior Hinges to be Stainless Steel (630 - US32D)

Interior Hinges to be Satin Chrome (652 - US26D)

Door Closers to be Aluminum (689 – AL)

Locks to be Satin Chrome (626 - US26D)

Exit Devices to be Satin Chrome (626 - US26D)

Overhead Holders to be Stainless Steel (630 - US32D)

Flat Goods to be Satin Chrome (626 – US26D) or Stainless Steel (630 - US32D) as scheduled

Thresholds to be Mill Finish Aluminum (AL)

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. Install each door hardware item to comply with the manufacturer's written instructions.
- B. All hardware shall be installed in accordance with the Finish Hardware Schedule, and as required for the complete and functional operation and control of all doors within the scope of work. Approval of the hardware schedule shall not relieve Contractor of the responsibility for furnishing all necessary hardware, including the responsibility for furnishing correct quantities.
- C. Preferred mounting heights are indicated below. Code requirements and specific requirements on the hardware schedule at the end of this section govern in the event of a conflict. Heights are shown from finish floor to center line of item:
  - 1) Lockset: 40 inches
  - 2) Deadlock: 48 inches
  - 3) Push Plate: 45 inches
  - 4) Pull Plate: 42 inches
  - 5) Panic Bar: 38 inches
  - 6) Closer: per manufacturer's template to give maximum degrees of opening
  - 7) Kickplates and armor plates: Bottom of kickplate 1/8 inch above door bottom
  - 8) Wall Stops: on wall in alignment with lever or pull
- D. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation. Where closers are specified, they shall be the last hardware item to be installed.
- E. Drill and countersink units which are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- F. Cut and fit threshold and floor covers to profile of door frames with mitered corners and hairline joints. Join units with concealed welds or concealed mechanical joints. Cut smooth openings for spindles, bolts, and similar items.
- G. Anchor thresholds to substrate with cadmium plated machine screws.

- H. At exterior doors and elsewhere as indicated, set thresholds in a bed of either butyl rubber sealant or polyisobutylene mastic sealant to completely fill concealed voids and exclude moisture from every source. Do not plug drainage holes or block weeps. Remove excess sealants.
- I. Coordinate installation of hardware for wood doors with Painting section of this Project Manual. Do not install surface mounted items until the final finish coat has cured.
- J. Wherever field cutting and fitting of wood doors is required for hardware installation, remove hardware after final fitting, allow painter to seal and finish "raw" surfaces, then reinstall hardware.

### 3.2 ADJUSTMENT, CLEANING, PROTECTION

- A. Contractor shall adjust all hardware in strict compliance with manufacturer's instructions.
- B. Contractor shall protect exposed hardware installed on doors during the construction phase.
- C. Care shall be exercised not to mar or damage adjacent work. Clean adjacent surfaces soiled by door hardware installation.
- D. Prior to turning project to owner, contractor shall clean and make any final adjustments to the finish hardware.

### 3.3 CLOSE OUT

- A. Provide a copy of the keying catalog with the project close out documents. Refer to the Project Close Out section of this Project Manual. This close-out copy is in addition to the Key Catalog mounted inside of the key control cabinet.

#### B. Extended Warranties:

Provided Manufacturers standard warranties as follows:

Door Closers: Thirty (30) years

Exit Devices: Three (3) years

Mortise Locks: Three (3) years

[INSERT FINISH HARDWARE SCHEDULE]

[The format below is a sample and may be modified to suit the project. All of the information shown below must be included on the architect's finish schedule.]

**Legend**

**Manufacturers**

|    |                   |
|----|-------------------|
| GL | Glynn Johnson     |
| IV | Ives              |
| LC | LCN               |
| LU | Lund Equipment Co |
| PE | Pemko             |
| RO | Rockwood          |
| SC | Schlage           |
| VO | Von Duprin        |

**Finishes**

|       |                         |
|-------|-------------------------|
| AL    | Aluminum                |
| 26D   | Satin Chrome            |
| 630   | Satin Stainless Steel   |
| US28  | Aluminum Clear Anodized |
| (etc) |                         |

**Option List**

Define abbreviations used in schedule

**Hardware Set 01**

Opening Description: 3'-0" x 7'-0" x 1-3/4 x WD type 2 x HM type A – HM x smoke

|   |                  |                                 |                 |     |
|---|------------------|---------------------------------|-----------------|-----|
| 1 | Single Door #123 | Corridor 122 from Classroom 123 | 90 <sup>0</sup> | RHR |
| 1 | Single Door #124 | Corridor 122 from Classroom 124 | 90 <sup>0</sup> | LHR |

Provide each SGL door(s) with the following:

| Qty |    | Description   | Catalog Number | Finish | Mfr |
|-----|----|---------------|----------------|--------|-----|
| 3   | Ea | Hinges        |                |        |     |
| 1   | Ea | Lockset       |                |        |     |
| 1   | Ea | Closer        |                |        |     |
| 1   | Ea | Wall bumper   |                |        |     |
| 3   | Ea | Door silencer |                |        |     |



# Primus Face Sheet

## Level 3, 4, and 9 Order Authorization

**THIS ORIGINAL FORM MUST BE MAILED TO SCHLAGE COMMERCIAL DIVISION WITH YOUR ORDER  
– FAXED COPIES NOT ACCEPTABLE –**

**DISTRIBUTOR INFORMATION ONLY:**

**DISTRIBUTOR NAME** \_\_\_\_\_ **DATE** \_\_\_\_\_  
**ACCOUNT #** \_\_\_\_\_ **DISTRIBUTOR PO#** \_\_\_\_\_

**PRIMUS SECURITYLEVEL:**

|  |   |   |   |
|--|---|---|---|
| <input type="checkbox"/> 3U (no exclusivity)<br><input checked="" type="checkbox"/> 3G (2-digit zip exclusivity) | <input type="checkbox"/> 4Z (time zone exclusivity)<br><input type="checkbox"/> 4N (nationwide exclusivity) | <input type="checkbox"/> 9U (no exclusivity)<br><input type="checkbox"/> 9G (2-digit zip exclusivity) | <input type="checkbox"/> 9Z (time zone exclusivity)<br><input type="checkbox"/> 9N (nationwide exclusivity) |
| Classic Keyways  |   | Everest® Keyways  |   |

**NEW** If new, complete project information and attach Primus® Signature Card (Schlage form MS-E130).

Project Name (please print or type) \_\_\_\_\_

Street (no P.O. Box) \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**EXISTING** If existing please indicate Primus # \_\_\_\_\_ (From Primus I.D. Card)  
 Name and phone # of individual who is knowledgeable about this project, should any clarification be necessary:

(      )

Name \_\_\_\_\_ Phone \_\_\_\_\_

**SHIPPING INSTRUCTIONS:**

It is the policy of Schlage Commercial to ship Level 3, 4, and 9 products directly to the end user / owner to maximize control and security of your Primus cylinders and keys. Be sure that the shipping address provided below includes the name of the specific individual in your organization to whom Primus cylinders and keys should be shipped. Schlage will ship to alternate locations, if so instructed, with the understanding that the undersigned assumes full responsibility for the security and care of the material to be so shipped. **Unless otherwise specified below, Level 3, 4, and 9 products will be shipped to the original end user / owner address on file.**

Masterkeys may be shipped to a separate location if desired, at no extra charge. If all keys are to be packed and shipped separately, there is an additional charge in accordance with Schlage PKI (Pack Keys Independently) pricing as listed in Schlage's current price book.

**ORDER SHIPPING ADDRESS:**

Location Name \_\_\_\_\_  
 Attention \_\_\_\_\_  
 Street (no P.O. Box) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**CHANGE KEY ONLY SHIPPING ADDRESS:**

Location Name \_\_\_\_\_  
 Attention \_\_\_\_\_  
 Street (no P.O. Box) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**MASTER KEY ONLY SHIPPING ADDRESS:**

Location Name \_\_\_\_\_  
 Attention \_\_\_\_\_  
 Street (no P.O. Box) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**ALL KEYS SHIPPING ADDRESS:**

Location Name \_\_\_\_\_  
 Attention \_\_\_\_\_  
 Street (no P.O. Box) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

**SIGNATURE BLOCK:**

I hereby authorize the above Schlage distributor to order material for the Primus system specified above and I certify that I am the owner, or authorized agent of the owner of the Primus High Security Cylinder System specified above and I am authorized to place this order.

\_\_\_\_\_  
**AUTHORIZED SIGNATURE**

\_\_\_\_\_  
**DATE**

Mail to:  
IR Schlage  
Attn: Primus Order Processing  
3899 Hancock Expressway  
Security, CO. 80911

*Note: The U.S. Post Office has delivery restrictions that may cause forms sent via U.S. Express Mail to take an additional 1-2 days to be received.*

THE PRIMUS FACESHEET MUST BE COMPLETED AND ATTACHED TO YOUR ORDER FORM.  
AN INCOMPLETE PRIMUS FACESHEET WILL CAUSE UNNECESSARY DELAYS IN ORDER PROCESSING.  
– FAXED COPIES NOT ACCEPTABLE –