

**SECTION 08 71 00  
DOOR HARDWARE**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES:**

- A. Hardware for wood and hollow steel doors
- B. Lock Cylinders for gates, folding partitions, wire cages, and doors
- C. Thresholds
- D. Gaskets

**1.2 REFERENCES**

- A. NFPA 80 – Standard for Fire Doors and Other Opening Protectives
- B. AWI - Architectural Woodwork Institute
- C. BHMA - Builders' Hardware Manufacturers Association
- D. DHI - Door and Hardware Institute
- E. Florida Building Code: Accessibility NAAMM - National Association of Architectural Metal Manufacturers
- F. FFPC – Florida Fire Prevention Code
- G. SDI - Steel Door Institute
- H. FBC - Florida Building Code
- I. FFPC \_ Florida Fire Prevention Code

**1.3 COORDINATION**

- A. Coordinate work of this Section with other directly affected Sections involving manufacturer of any internal reinforcement for door hardware.

**1.4 QUALITY ASSURANCE**

- A. Manufacturers: Companies specializing in manufacturing door hardware with minimum 5-years of experience.
- B. Hardware Supplier: Company specializing in supplying institutional door hardware with minimum 5-years documented experience.
- C. Hardware Supplier Personnel: Employ an Architectural Hardware Consultant (AHC) to assist in the work of this Section and be readily available for consultation.

**1.5 REGULATORY REQUIREMENTS**

- A. Conform to the FBC for requirements applicable to both fire rated doors/frames and accessibility for the physically disabled.
- B. Conform to the applicable sections of FFPC.

**1.6 CERTIFICATIONS**

- A. Architectural Hardware Consultant shall inspect complete installation and certify that hardware and installation is in accordance with manufacturer's instructions and this specification.
- B. Provide two copies of certifications to the Architect.

**1.7 SUBMITTALS**

- A. Submit schedule and product data under provisions of Section 01 33 00.
- B. Indicate locations and mounting heights of each type of hardware.
- C. Provide product data on specified hardware.
- D. Submit samples under provisions of Section 01 33 00.
- E. Submit samples of hinge, latch set, exit device, door closer, threshold, illustrating style, color, and finish.

The School District of Palm Beach County

Project Name

SDPBC Project No.

- F. Samples: Incorporate the samples within the Work.
- G. Submit manufacturer's parts lists, templates, and installation instructions under provisions of Section 01 33 00.
- H. Submit manufacturer's certificate under provisions of Section 01 40 00 that fire rated hardware meets or exceeds specified requirements.

1.8 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data under provisions of Section 01 77 00.
- B. Include data on operating hardware, and inspection procedures related to preventative maintenance.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site under provisions of Section 01 60 00.
- B. Store and protect products under provisions of Section 01 60 00.
- C. Package hardware items individually, label and identify package with door opening code and hardware group to match hardware schedule.
- D. Deliver all final keys and construction key voiding devices to Owner's Lock Department by security shipment direct from hardware supplier.
  - 1. Delivery Address:  
The School District of Palm Beach County  
Department of Facilities Services  
Quality Assurance Section  
West Palm Beach, Florida 33406-4108
- E. Deliver two copies of factory key biting schedule to the Owner's Lock Department in conjunction with delivery of final keys.
- F. Protect hardware from theft by cataloging and storing in secure area.

1.10 WARRANTY

- A. Provide a minimum of a 5-year warranty period under provisions of Section 01 77 00.
- B. Warranty: Include coverage of door closers, locksets, latch sets, exit devices hinges and all items listed in the hardware schedule

1.11 MAINTENANCE MATERIALS

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

**PART 2 PRODUCTS**

2.1 ACCEPTABLE MANUFACTURERS

- A. Hinges: Ives, Hager, Stanley
- B. Reinforcing Pivots: Hager
- C. Cylinder Locks: Schlage
- D. Latch Sets: Schlage
- E. Cabinet Locks: Schlage, Olympus with Schlage IC Core
- F. Rim / Mortise Cylinders: Schlage IC Core
- G. Mortise Locks: Schlage
- H. Exit Devices: Von Duprin, Falcon – using Schlage IC Core
- I. Door Closers: LCN
- J. Removable Mullions: Von Duprin, Falcon; using Schlage IC Core
- K. Manual/Automatic Bolts: Ives, DCI
- L. Coordinators: Ives, DCI

The School District of Palm Beach County

Project Name

SDPBC Project No.

- M. Push/Pulls: Ives, Quality, Rockwood
- N. Protection Plates: Ives, Quality, Rockwood
- O. Gaskets / Thresholds: Zero, National Guard
- P. Power Supplies: Von Duprin
- Q. Power Transfer: Von Duprin

2.2 HINGES

- A. Size: Provide 4½" wide x 4½" high, 5BB1 at exterior and 5BB1 at interior locations.
- B. No less than three hinges on any door and add a reinforcing pivot on all doors over 3' 0" wide.
- C. Ball Bearing hinges on doors with door closers and provide Non-Removable Pin type on all exterior out-swing doors.

2.3 LOCKSETS

- A. Supply in the following functions:

LOCATION	FUNCTION
1. Passage	ND10S
2. Privacy	ND40S(44S in Grades K-2)
3. Offices / Classrooms (security lock)	ND95PD x RHO x 626
4. Storeroom/Mechanical Room	ND96PD x RHO x 626
5. Deadlocks (student areas)	B663P
6. Deadlocks (non-student areas)	B660P
7. Staff Restrooms	L9496 w/ Occupied Indicator, L9496-P-06A-626

- B. Electronic Lever Lock: Schlage L9080PEU x 06 x 630 or ND96PDEU X RHO X 626

2.4 DOOR CLOSERS

- A. All door closers shall be a LCN 4040XP/4041XP series.
- B. Furnish Parallel arms on all doors scheduled for closers except where they are mounted showing in corridors.
- C. Supply nylon spacer for fifth mounting screw on parallel arm installations where required due to frame configuration.
- D. Supply with EDA arm on installations in main corridor entrances, gymnasiums, locker rooms, and restrooms.

2.5 EXIT DEVICES AND POWER SUPPLY

- A. Supply the following as applicable:

TYPE DOOR	DEVICE
1. Non-fire rated	Von Duprin 98/99 with Trim as specified
2. Fire-rated	Von Duprin 98/99 with Trim as specified
3. Non-fire rated* (pairs)	Von Duprin 98/99 with Trim and Mullion as specified
4. Fire-rated*(pairs)	Von Duprin 98/99 with Trim and Mullion as specified
5. Fire-rated (Electronic)	Von Duprin 98/99 QEL-98L-F x E996L x 06 or E996 Trim as specified
6. Non-fire-rated (Electronic)	Von Duprin 98/99 QEL or E996 Trim as specified
7. Power Supply	Von Duprin PS900 Series
8. Electrical Power Transfer	Von Duprin EPT-10 X SP 28EPT10 x SP28

\* Note – Interior doors (pairs) shall be equipped with removable mullions with key removable operation (with IC cylinders).

\* Note- Exterior doors (pairs) shall be non-keyed removable per Miami-Dade County NOA requirements.

2.6 DOOR TRIM

The School District of Palm Beach County

Project Name

SDPBC Project No.

- A. All push plates, pull plates and kick plates manufactured of .050 stainless steel.
- B. Push plates and pull plates 4" wide x 16" high.
- C. Kick plates shall be 10" high x 2" less than door width.

2.7 DOOR STOPS

A. Door stops to be of the following types;

- 1. Manufacturers; Ives, Rockwood

B. Overhead Stop and Holders;

- 1. Manufacturers; GLYNN Johnson, Rixson

2.8 AUTOMATIC FLUSH BOLTS, SURFACE BOLTS AND COORDINATORS

A. Supply door bolts of the following type;

- 1. Manufacturers; H.B. Ives, DCI

- a. H.B Ives

- b. DCI

2.9 THRESHOLDS AND SEALS

A. Supply threshold and seals of the following types for exterior doors (per current Miami-Dade County NOA requirements)

- 1. Manufacturers; NGP Products, Zero International

- a. NGP Products;

- b. Zero International

B. Supply thresholds and seals of the following types for interior doors (as scheduled in hardware sets);

- 1. Manufacturers; NGP, Zero International

2.10 OVERHEAD RAIN DRIP

A. Provide overhead rain drip of the following types at all exterior door frame locations or as scheduled in these specifications (per Miami-Dade County NOA requirements);

- 1. Manufacturers; Zero International, NGP Products

2.11 FASTENINGS

A. All screws of matching finish to their product and to the manufacturer's standards for that item and its intended use.

2.12 KEYING

A. Pre-Order Meeting: Hardware Supplier shall meet with a representative of the Owner's Lock Department and Department Head to establish a keying schedule before placing any orders.

B. Locks:

- 1. Provide keying as established in pre-order meeting with Hardware Supplier.

- 2. All locks to be Construction Master Keyed using the split key method.

C. All locks and cylinders factory keyed to Palm Beach County School District Schlage EVEREST D245 restricted keyway.

D. Hardware Supplier and a representative of the Owner's Lock Department will meet and establish final count of locks and cylinders.

- 1. The Owner's Lock Department will transmit a letter to the Schlage Lock Company releasing locks and cylinders in the amount established in the final count to the Hardware Supplier.

E. Supply two keys for each lock with a maximum of four keys of keyed alike sets.

F. Supply keys in the following quantities:

- 1. Five Master Keys

- 2. Five Grand Master Keys

The School District of Palm Beach County

Project Name

SDPBC Project No.

3. Five Great Grand Master Keys
4. Two Control Keys (for interchangeable cores)
5. Twelve Construction Master Keys

G. Key Delivery: Refer to Section 08 71 00 1.09, D.

H. Visual Key control: Use visual key control – stamp keys only. Stamp all keys “Do Not Duplicate”.

#### 2.13 KEY CABINETS

- A. Key Cabinet: Sheet steel construction, piano hinged door with pin tumbler lock of brass construction.
- B. Cabinet Size: Provide a size for known project keys plus 10%.
- C. Horizontal metal strips for key hook labeling with clear plastic strip cover over labels.
- D. Finish shall be baked enamel finish, gray color.

#### 2.14 KNOX BOX

- A. Provide the required Knox box as manufactured by Knox Company to meet the local Fire Department criteria.
  1. Coordinate ordering and locating with the Fire Department having jurisdiction.
- B. Provide a Knox box as manufactured by Knox Company to meet the School District’s Police Department criteria.
  1. Coordinate ordering and locating with the School District’s Police Department
- C. Provide two Knox padlocks to meet the local Fire Department criteria.
  1. Coordinate ordering and locating with the Fire Department having jurisdiction.

#### 2.15 FINISHES

- A. Exterior Hinges: US32D
- B. Interior Hinges: US26D
- C. Exterior Locks: US32D
- D. Interior Locks: US26D
- E. Coordinators: US26D
- F. Push, Pull & Kick Plates: US32D
- G. Door Closers: AL
- H. Exit Devices: US32D/US26D
- I. Door Stops & Holders: US32D
- J. Thresholds & Weather Strips: AL

#### 2.16 CLOSERS, MAGNETIC HOLD-OPEN SYSTEMS:

- A. Furnish closer/electromagnet complete with required accessories necessary for a complete working system. Provide a two-year warranty.
  1. Manufacturers; LCN, Rixson
    - a. LCN, SEM 7800
    - b. Rixon, 998

### **PART 3 EXECUTION**

#### 3.1 INSPECTION

- A. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.
- B. Beginning of installation means acceptance of existing conditions.
- C. Do not install any hardware until after the hardware manufacturer’s representative pre-installation class to ensure proper installation of the specified products.

#### 3.2 INSTALLATION

The School District of Palm Beach County

Project Name

SDPBC Project No.

- A. Install hardware in accordance with manufacturer's instructions and requirements of DHI.
  - B. Use the templates provided by hardware item manufacturer.
  - C. Mounting heights for hardware from finished floor to center line of hardware item:
    - 1. Locksets: 38 inches
    - 2. Push/Pulls: 42 inches
    - 3. Dead Locks: 48 inches
    - 4. Exit Devices: 38 inches
  - D. Conform to Florida Accessibility Code for Building Construction for positioning requirements for the disabled.
  - E. Set all thresholds in a full bed of butyl rubber.
  - F. The hardware manufacturers will provide a post installation review to ensure proper installation of the specified products.
- 3.3 ADJUST AND CLEAN
- A. Adjust and check the operation of each item of hardware and each door, to ensure the proper function of every item.
    - 1. Adjust or replace all items that to operate freely and smoothly.
  - B. Made final adjustments after all ventilating systems are in operation.
  - C. Clean all hardware and adjacent surfaces after hardware installation.
  - D. Instruct Owner's personnel in adjustment and maintenance of hardware and hardware finishes.

END OF SECTION