

GENERAL:

Summary - This Section includes items known commercially as Finish Hardware which are required for swing doors, except special types of unique and non-matching hardware associated with special items such as casework, hatches, access doors, etc.

At or before design Phase III, prior to bidding the Work, the Hardware Schedule shall be submitted to the DCPS Project Manager and the Maintenance Lock Department for review. **All changes shall be incorporated in the Bid Documents and put forth in the final schedule.**

General Requirements

All shop drawings must accurately reflect the requirements put forth in the final hardware schedule unless specifically approved by the Project Manager AND the Maintenance Lock Department. Hardware finish shall be US26D and US32D.

All pairs of doors with exit devices to have a steel or aluminum key-removable center mullion (compatible with doorframe material). For doors with locks and flush bolts, supply an astragal for non-operable leaf. All pairs of doors to be minimum 6'-0" wide.

Any school (new or retro-fitted) will have Intellikey put on exterior doors as directed. The location of Intellikey exterior doors will be determined by the DCPS design Project Manager and the Maintenance Lock Department. **The county standard on all cylinder locks will be based on the Yale Keymark High Security Restricted Keyway system including at least one side of all exterior double doors.** The Intellikey keyway will be hardwired into the buildings electrical system on all new construction except in situations where that is not feasible. The entire school hardware for both New and retrofit projects and for both exterior and interior doors shall be based on the factory Grand Master Yale Keymark High Security Keyway system, all cylinders ,cores and keys shall be per this Keymark system (with the exception of the designated locations for the Intellikey Electronic Cylinders)this is a proprietary keyway system . Specify the supplier must have in his employment a certified Architectural Hardware Consultant. Also specify that mechanical cylinders shall be removable core, a minimum of 7 pins, that the contractor to provide 5 factory cut change keys per lock, 10 master keys per group,8 grand master keys, 8 controls keys, 25 pre-combinated cores and 200 key blanks.

All hardware shall meet A.D.A. and SREF and all other accessibility requirements as applicable.

The Manufacturer shall warrant all closers for a period of ten years, Exit hardware for a period of 3 years and other hardware for 1 year.

Require the Contractor to place on record with the Owner written proof of the qualifications of all persons engaged in the installation of all items of finish hardware. No person shall be engaged in the installation of finish hardware without the prior approval of the Owner based on the acceptance of written certification.

Hinges

Doors 7' or less in height to have three (3) butts. *All doors 8'-0" and taller and all doors wider than 3'-6" shall have at least one additional butt.* Dutch doors to have two (2) butts per leaf. For doors 3'0" wide and over shall use heavy weight four ball bearing hinges. Architectural firm to detail door frames set to within ¼" of door side of masonry (with or without brick veneer), tilt-up, or precast concrete walls. This will permit maximum swing to wall. If door swings conflict and do not permit maximum swing, provide appropriate heavy-duty doorstop as required. All exterior hinges shall be stainless steel ball bearing type with non-removable pins. Hinges at wet rooms and chemical rooms shall be stainless steel. All doors with closers to have ball bearing hinges. All aluminum storefront doors to have three heavy-duty adjustable pivots (top, bottom and intermediate).

Thresholds

All thresholds and saddles to be full-width aluminum and shall meet accessibility requirements.

All kickplates to be stainless steel, 18 gauge (minimum).

Door Stops

Floor mounted at all applicable locations with the exception as to impeded or provide a tripping hazard, use model Rockwood model 463 . Where the above model cannot be used CMU wall mounted door stops shall be convex rubber bumper stops with concealed fasteners with anchors specifically designed for CMU substrates. Where wall stops are used at drywall construction, the stop shall be mounted on a 4" x 4" phenolic resin board glued **and** anchored into the solid blocking behind the drywall. Floor stops are the preference of the district and shall contact the door leaf within the first quarter of the panel at the strike edge. Floor stops shall be "heavy-duty" type. The door closer assembly shall not be used as a stop.

All door push and pull devices shall comply with A.D.A. and all other accessibility requirements. Push plates (on doors with no lights) shall be 8" x 16" and pull plates shall be 4" x 16" minimum. All locksets shall be of the proper type and function to meet the condition of use and all A.D.A. and accessibility regulations, as applicable. All locksets shall meet the requirements of the Duval County Plant Services Department.

Specify Required Submittals

Submit final Hardware Schedule in manner indicated below. Coordinate hardware with doors, frames and related Work to ensure proper size, thickness, hand, function and finish of hardware.

Final Hardware Schedule Content: Based on finish hardware indicated, organize Hardware Schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:

- a. Type, style, function, size and finish of each hardware item.
- b. Name and Manufacturer of each item.
- c. Fastenings and other pertinent information.
- d. Location of hardware set cross-referenced to indications on drawings both on floor plans and in door and frame schedule.
- e. Explanation of all abbreviations, symbols, codes, etc., contained in Schedule.
- f. Mounting locations for hardware.

- g. Door and frame sizes and materials.
- h. Keying information.

Specify the following:

Required Cylinder Manufacturer (No Substitutions)

Manufacturer - Russwin/Corbin (for existing Schools) and Yale Keymark High Security Restricted Keyway System (at all New construction)

Cylinders to be 7(new Keymark system, new construction) 6-pin (Existing School or remodel and Renovation) – Russwin N Series (Reverse) in keyways N15 through N28 as directed by the owner. All cylinders shall be furnished with appropriate cams and trim rings as required by the lock manufacturer requirements. All cylinders shall be factory great grand master keyed as directed in a keying meeting to be held with Duval County’s representative from their locksmith department. All cylinders shall be furnished with three (3) keys per lock. Keys shall be furnished in Russwin/Corbin type 12 bow. The bow will be stamped “Do Not Duplicate” on one side and with the appropriate keyset (eg. AA1) on the opposite side. All permanent cylinders and keys shall be packed separate from locksets and other hardware. During construction, the finish hardware supplier shall furnish temporary cylinders for all exterior doors and all interior mechanical, electrical, and telephone/communications rooms on the project. In, addition, the finish hardware supplier shall also furnish an additional 15 cylinders for the contractor’s discretionary use during the course of construction. At the time of substantial completion, the contractor shall install all permanent cylinders in all locksets, exit devices, keyed mullions, rolling shutters, overhead doors, and any other locking device specified to have a cylinder. Turn all permanent keys directly over to the DCPS Locksmith Shop. Please note: this factory system is not capable of being construction keyed

Acceptable Lock Manufacturers, Models and Trims **No other substitutions are acceptable nor will be considered**

1. Manufacturer - Russwin/Corbin
Model - ML2000
Physically Handicap Trim – LWM
2. Manufacturer – Yale (with Russwin/Corbin permanent cylinders)
Model – 8700SL
Physically Handicap Trim - Augusta ASL

Specify the following lock application:

Classroom, Office, and Entrance Doors

To meet ANSI FO5.

Latch bolt by key outside and lever either side unless outside lever is locked by key outside, inside lever always retracts latch bolt, and auxiliary latch deadlocks latch bolt.

Privacy Bathroom (used only at Staff toilets)

To meet ANSI FO2.

Latch bolt by lever either side except when outside lever is locked by projecting dead bolt. When dead bolt is projected a turn of inside lever retracts latch and dead bolts simultaneously-automatically unlocking outside lever, dead bolt by turn piece inside and emergency key outside.

Group Bathroom

Deadbolt keyed outside. Turn piece inside to retract dead bolt but not project it. Exception: where used in a fire-rated assembly, a Classroom function lockset be used.

Passage

To meet ANSI FO1.

Latch bolt non-locking lever both sides retracts latch bolt.

Hazardous Storage, Electrical, Mechanical, Flammable Storage, and Custodial Rooms

To meet ANSI FO7.

Deadlocking latchbolt. Latchbolt retracted by key outside, lever inside. Outside lever locked at all times. Levers to have knurled finish for visually impaired.

Classroom Secondary Exit Only

To meet ANSI F09 X Less Outside Cylinder

Deadlocking latchbolt. Latchbolt retracted by either trim unless outside trim is locked by key inside. No entrance from outside when outside trim is locked by key inside.

Exterior Gates Requiring Panic Hardware

Refer to current DCPS standard design for this application.

Specify the following closure application:

Acceptable Closer Designs

- a. Yale - 3501BF series
- b. Norton – 8501BF series

All closers to have full coverage non-ferrous covers, steel arms, separate valves for adjusting backcheck, closing and latching cycles and adjustable spring power to provide a full range of sizes 2-6. Closers shall be furnished parallel arm mounted on all doors accommodating students, opening into corridors or other public spaces, and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Regular arm mounted closers shall be used only on in swinging doors not accommodating students to conceal them from public view (i.e. in swinging Mechanical, Custodian etc.). Furnish with non-hold open arms. Closers will not be used as door stops. Closers shall be of the proper type to meet the conditions of use and shall allow for the full swing of the doors.

All closers to be of rack and pinion construction. Delayed action closures only to be used when required by ADA or other accessibility requirements. Closers to be Underwriter Laboratories listed for all classes of labeled doors. All closers shall be non-handed. Closer valves to be concealed against

unauthorized adjustment and all attached parts, such as cover and arm, will be tamper resistant, requiring tools to dismantle. All door closers to be installed on doors with Through Bolts or Sex Nuts and Bolt. All hollow metal doors with door closers be furnished with 12-gauge door closer reinforcement. The use of through bolts to not remove this requirement.

Panic Bars Devices (For Exterior Gates: Refer to current DCPS standard design for this application)

Specify all devices listed for safety as panic hardware to must comply with UL305 standards for panic hardware.

Specify all devices meet and are tested in accordance to ANSI A156.3, Grade I and A117.1 Accessibility Code.

Required Panic Bar Manufacture

1. Manufacturer - Von Duprin
Model – 99 series
Trim Standard - 99ONL Active Leaves and Single Doors/ 990DT Inactive Leaf of Pairs of Doors
Operable Thumb Pieces are not acceptable
Fire Rated Trim Standard to meet Physically Handicapped - 994L-R (Heavy Duty Breakaway Type)

Panic Bar Application specify the following:

Exterior non-fire rated doors to have night latch function (dummy trim for inactive leaves) ANSI F03/F02

Fire-rated doors to have Classroom function ANSI F08.

Rim Exit Devices to be used for all doors requiring exit device locking (see exception in note 6 below.

Exterior double doors to have Rim Devices with approved mullion of same Manufacturer. All removable hardware mullions shall be key removable type for quick key controlled disengagement.

All exit devices shall meet A.D.A. and all other accessibility requirements. **Concealed vertical rods shall not be used.** Specify dogging of non-fire rated exit devices to be by standard allen or hex key. Keyed cylinder doggings not desired or acceptable.

Electric Hardware

Where required, electric mortise locksets and latch retracting exit devices shall be used. Electric strikes **shall not** be used. Low voltage electrical power shall be transmitted from frame to door by way of either mortised power transfers or electric hinges as recommended by the manufacturer. Surface mounted door loops are not acceptable. The Design Professional shall coordinate these requirements with the Electrical Engineer to insure proper in place conduit. The hollow metal frame fabricator shall prepare frames in masonry with mortar boxes to facilitate the appropriate electrical connection. Furnish the appropriate low voltage power supply as recommended by the Manufacturer.

Wall or floor-mounted electro-magnetic hold open devices may be used at doors where they are required by Code. Electro-magnetic devices must be mounted above 6'-3" from the finished floor.

Specify that:

The Installation Subcontractor use the Manufacturer's full thread machine and /or wood screws as furnished and recommended. Tek screws shall be permitted only if furnished as the Manufacturer's standard fastener and will not negatively impact Product Warranty or fire door rating.

Specify all door hardware to be installed with care and per good industry practice. Store hardware on site, in a safe, dry, and protected manner. Protect installed hardware during the construction process. Present hardware to owner in a clean and operable condition at time of substantial completion.

END OF SECTION 08710