



## C-11 – DOORS, HARDWARE, AND ACCESS SECURITY

### General

All doors, hardware, closers, etc., shall provide means for easy access and use by the physically handicapped.

### Interior Doors

Except in special situations, the minimum door opening is 36". Use flush doors wherever practical. Transparent finished wood doors shall be satin finished where practical. Seal tops and edges with Water-Lox or equivalent immediately after trimming.

For non-fire rated doors, use only solid-core wood doors similar and equal to Weyerhaeuser, Code DSC-1.

Fire rated doors which are required to be B-label should be metal, in order to minimize the weight which, the hinges and closers must carry. However, if B-label wood doors are specified, they shall have hinges and door closers installed using through-bolt hardware. Hardware, otherwise capable of handling the unusual weight.

On labeled fire doors, all closers shall be UL listed non-hold open type.

Doors which open to corridors, and which contain glass, shall use either 1/4" UL fire-rated tempered glass or 1/4" wire glass set in rated metal frames with wire strands running diagonally.

Provide automatic door openers as required in the Accessibility Section IV - D.

Whenever possible, avoid fire shutter doors. If fire shutter doors are required, they shall be motor operated Up and Down. Provide access to the controls and all reset features from floor level. The test and reset connections to the fire alarm system should be key operated.

### Exterior Doors

All exterior doors shall have a minimum of 36" opening and 7'0" height.

Double doors generally should not be used because of the problems involved in securing these doors. Where double doors are required, provide a keyed removable mullion such as Von Duprin #5754.

All exterior doors and jambs should be hollow metal (steel) or aluminum and glass (storefront systems). Wood and frameless glass exterior doors present a severe maintenance problem and should be avoided. Steel doors shall be a minimum of 16-gauge steel; jambs shall be a minimum of 14 gauge. Aluminum doors in store front systems shall be medium or wide stile; narrow stile doors are not acceptable.

At each accessible entrance to a building equip at least one door with an automatic door operator. Refer to accessibility Section IV - D for additional requirements.

Completely protect all exterior automatic door operator activators provided at accessible entrances from the weather. This shall include not only the use of weatherproof electrical boxes and enclosures, but also must contain a weatherproof activator (rubber seal or push button) or housing which will prevent water from entering around the switch and prevent sticking during freezing weather.



### Access Doors

As a basis of design, design shall specify access doors equal to: **Milcor Style 'K' or 'DW'**.

### Windows - Wood and Metal

Construct window sections to enable cleaning of outside glass surfaces from inside the building (in-swing, removable, or pivoted) except for windows accessible from the ground and windows no higher than forty feet (40') above grade. Equip window sections with concealed locks and removable keys.

For fire department access and emergency escape certain buildings and windows are required to be operable from within, without special use of a key.

Turn all keys over to Facilities Services with a minimum of one key per each 30 windows. Provide double-glazed windows with vacuum seal and 1/4" minimum, clear, polished glass.

### Accessibility

The Designer is expected to provide a design that will comply with the current versions of the North Carolina State Building Code and the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

<http://www.ada.gov/publicat.htm>. The University requires some elements that exceed these codes and standards:

1. All lever hardware shall have an end return.
2. Automatic door opener shall be hardwired. The location of activators (push plates) and stub outs for the automatic door openers shall be shown and dimensioned on the architectural drawings. Activators shall be mounted 36" above the adjacent grade or floor and be 48" minimum from any portion of the door in the open position. The push plate shall be 4-1/2" diameter minimum. Door activator shall be provided at the following locations:
  - a. Main Entrance doors into the building. Where the building has main entrances on different levels, they shall be provided at each level. These locations shall also be stub out for a proximity reader.
  - b. Entrance doors into the primary multi-fixture toilet rooms on levels served by the main entrances mentioned above
  - c. Additional locations may be requested on a project by project basis no later than the Design Development Phase
  - d. Where vestibules are provided, the opener shall activate the doors on each side of the vestibule. An activator shall be located in the vestibule.
3. In addition, stub outs for future automatic door openers (conduit supplied to ceiling above and to boxes at future activator locations) shall be provided in the following locations:
  - a. Entrance doors to all other multi-fixture toilet rooms on all floors
  - b. Entrance doors of common use bathrooms in dormitories, accessible dorm room entrance doors and toilet room doors in an accessible suite



## Door Hardware – Basis of Design & Preferred Brands

\* Indicates Preferred Brands

### 1. **Hinges**

To be no smaller than 4 ½ x 4 ½ No less than three per door leaf

Ball Bearing hinges to be used on all exterior doors that are not store-front.

- a) McKinney\*
- b) Stanley
- c) Ives

### 2. **Continuous Hinges**

- a) Markar\*
- b) Select
- c) Ives

### 3. **Keying System and Cylinders**

For new construction and complete building renovations furnish removable-core, large-format **Schlage “Primus” cylinders** in a keyway specified by the Access Control Shop unique to UNC-CH. All locks shall be furnished with permanent cores with 2 key blanks per core when ordering for permanent cores. In partial renovations to existing building the keyway for additional cylinders will match the existing keyway.

In new or renovation construction, cylinder shells are to be installed by the hardware installation sub-contractor.

***The Access Control shop will furnish temporary removable core cylinders in consultation with the general contractor and the end user for use during construction or renovation.***

Permanent cylinder cores with two (2) keys per cylinder will be delivered to the Access Control shop zero bitted for keying and installation for the end user upon acceptance of the building by the University and DOI.

For construction and major renovation in residence halls and student family housing facilities, furnish **Schlage “Everest SFIC” 7-pin format** interchangeable cores. All locks shall be furnished with 3 keys per core. Housing Support Lock shop will provide information on keyway and keying to be used. Permanent cores and keys will be delivered to the Housing Support Lock shop.

### 4. **Door Closers**

To be equal to LCN 4000 and 4100 series. No floor closers to be used.

- a) LCN \*
- b) Norton
- c) Dorma

### 5. **Mortise Locks**

Trim to be equal to Corbin-Russwin ML 2000 series. Provide Corbin-Russwin ML 2000 series as owner preferred alternate.

- a) Corbin-Russwin



- b) Schlage
- c) Best

**6. Cylindrical Locks and Latch Sets**

Equal to Schlage AL series with removable core Primus cores X SAT X 626

- a) Corbin-Russwin
- b) Schlage\*
- c) Best

**7. Silencers, Stops and Flush bolts**

- a) Rockwood
- b) Glynn-Johnson
- c) Ives

**8. Kick plates, Armor plates, Door edges and Misc.**

- a) Rockwood
- b) Don-Jo
- c) Ives

**9. Weather-stripping, Seals and Thresholds**

- a) Pemko
- b) Zero
- c) National Guard

**10. Push/Pulls**

- a) Rockwood
- b) Glynn-Johnson
- c) Ives

**11. Exit Devices**

To be equal to Von Duprin 99 series. No concealed or vertical rod units to be used.

- a) Von Duprin\*
- b) Corbin Russwin
- c) Sargent

**12. Overhead Stops/Holders**

- a) Glynn-Johnson\*
- b) ABH
- c) Rixon

NOTE: Holders and Stops will be listed for fire alarm use

**13. Automatic/Accessible Door Operators**

To be equal to LCN 4630/4640

- a) LCN\*
- b) Horton
- c) Beasom



#### 14. **Electronics**

- a) Von Duprin\*
- b) HES
- c) Locknetics

#### 15. **Classroom Intruder**

All classroom hardware shall require interior locking capability to be used in an emergency lockdown situation.

Keying for all projects will be done by the university Access Control shop in coordination with the end user's needs. All lock cylinders in new construction and total building renovations to be removable-core, large-format, **Schlage "Primus."**

#### Building Card Access System

If the scope of this project includes Card Access the following guidelines shall apply.

The Access Control shop will purchase material used for card access to maintain continuity with existing and future card reader projects on the UNC-CH campus. The Access Control shop will then supply the contractor and other University departments with material as needed to complete the work on the project. Here are listed the responsibilities of the general contractor and the subcontractors:

##### 1. **General Contractor**

The general contractor shall furnish, install and paint one 8' X 4' X ¾" exterior grade sheet of plywood as instructed by the Access Control shop in the designated card access control room. It is the responsibility of the general contractor or his representative to coordinate the work of all subcontractors and communicate any scheduling dates, delays, problems or needs to the proper University personnel.

##### 2. **Electrical Subcontractor**

The electrical subcontractor shall furnish and install all necessary conduit, 2 X 2 Panduit and two-gang boxes in all locations as designated by the project plans and instructions of the general contractor. This subcontractor shall also furnish and install one 12" X 12" junction box with one two-inch nipple and in a separate location 110 volt power on a dedicated circuit terminating on the plywood mounted by the general contractor in the designated access control room as instructed. This contractor shall then pull and label all necessary wire furnished by the University Access Control shop from the access control room to all card reader locations as indicated without splices. If any locations are designated for future installation of card readers the contractor shall install boxes, conduit and labeled pull tape in the wall and install a cover plate as directed by the plans and the general contractor.

Each new construction project and/or complete building renovation shall include the installation of a Traka key control cabinet in a designated mechanical space for Facilities Services. The cabinet and ancillary equipment shall be supplied, installed and maintained by the Access Control shop. The Contractor shall provide:

- A. Dedicated circuit for Traka cabinet
- B. Raceway with wire or pull tape for card access



C. Lan/data for Traka cabinet and card access readers

OneCard System

Except for Medical School and Housing, most buildings at the University of North Carolina at Chapel Hill employ the OneCard card access system, using a Diebold A-1000 access reader system. Requirements for the design of this system are project specific.

The designer will work with the Project Manager to determine project scope and cost early in the design process. The project cost will include the equipment and work provided by UNC.

The following outlines responsibilities of owner/contractor work as it applies to the Diebold system:

1. The building contractor will furnish and install all door hardware, electrical exit devices, automatic door operators, ADA push plates & power supplies for all door hardware, unless otherwise specified.
2. The building contractor will furnish and install all raceways, boxes, 24 volt wiring & associated components required for the OneCard System.
3. The building contractor will install new fire-retardant plywood on the wall of the OneCard closet. The size of the closet(s) will depend on the size of the system.
4. UNC Electronics shop will purchase, install, and make all terminations to the OneCard equipment including card readers, proximity readers, A-100 controllers, A-1000 controllers with Wiegand adaptors, Altronix ULX400, power supply for door strikes, Proximity reader power supplies, terminal server, control cabinet and relays, and associated components.