DEB NEWSLETTER

DIVISION OF ENGINEERING AND BUILDINGS

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Join DEB in Wytheville for "DGS on the Road"

Do you want to learn more about the services DEB and DGS provide? Is there a question or an issue you would like to discuss with us? Join DGS at Wytheville Community College on June 18 during the inaugural DGS on the Road event. DEB Director W. Michael Coppa will present information about DEB and take your questions from 9 to 10 a.m. in Grayson Hall. Other DGS business units will present information from 9 a.m. until noon. Free parking is available. Registration is not required, but we ask that you RSVP to dena.potter@dgs.virginia.gov.

In addition to DEB's role, you can learn about the following:

- DGS' management of the Commonwealth's real estate assets, including land acquisitions, dispositions and leasing opportunities
- How DGS helps businesses stay informed about public contracting and vending opportunities
- Special construction projects DGS manages for other state agencies
- State and federal surplus property programs, where agencies, localities, nonprofits and some businesses can buy items ranging from office furniture to heavy equipment for pennies on the dollar
- How DGS' distribution center keeps agencies, institutions, localities and universities stocked with food, supplies and other items
- Virginia's fleet program, including fuel and short-term rental contracts, and vehicle maintenance management
- Virginia public health laboratory, which performs over 9 million tests annually to ensure our babies are healthy and that our food and water supply and our environment are safe from infectious agents and toxic chemicals

More information is coming soon to the DGS website: dgs.virginia.gov.

For driving directions and parking information, refer to the Visiting WCC webpage.

The DEB Newsletter is a monthly publication of the Department of General Services' Division of Engineering & Buildings. Prior Newsletter issues are available on the DEB Newsletter webpage. To subscribe, visit the self-service DEB Newsletter Subscription webpage.

Door Hardware Code Compliance Basics

Fire drills are standard instruction for students beginning in elementary school. Drills became mandated throughout the country following a terrible Chicago grade school fire in 1958 that resulted in 95 deaths. Tragic fire incidents, such as this, have taught us that it is essential for building occupants to evacuate quickly, safely and expediently during a fire or other emergency.

Likewise, code requirements for the design of building egress components have been developed from real fire incidents. The 2015 Virginia Construction Code (VCC), Chapter 10, *Means of Egress*, establishes the minimum standard for design, construction and arrangement of means of egress components to provide a continuous and unobstructed path from any occupied point in a building to a public way. Safer, more efficient building evacuation is accomplished by providing code compliant exit access that accounts for distance of travel to building exits, the appropriate number of building exits, egress doors, egress illumination and exit signage. Door hardware is a critical component for exit access with requirements addressed in VCC Chapter 10, section 1010.1.9, *Door Operations*.

Five Basic Door Hardware Requirements

Each day, people easily move through building doors that are openable without second thought because the hardware installed falls into and complies with these five categories.

1. Free Egress (VCC 1010.1.9):

Do not lock people in buildings or spaces! This is the most important requirement.

Egress doors shall be readily openable from the egress side at all times without use of a key or special knowledge or effort; *except where specifically permitted by this section*. (The exceptions address hospitals, nursing homes, and prisons that all have special evacuation requirements.)

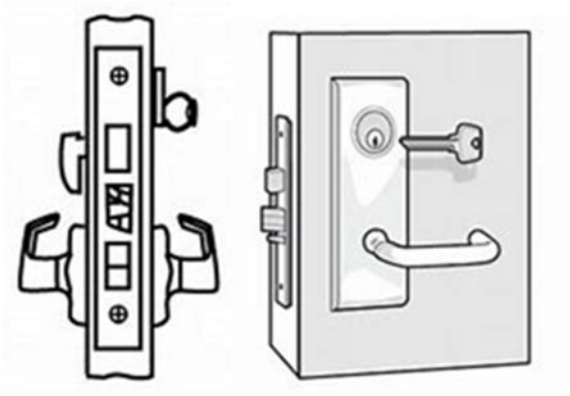
Card Access Reader on Exterior of Building

ACCEPTABLE:
Locking exterior doors to prevent persons from entering a building is permissible.

NOT ACCEPTABLE:
Inhibiting free egress is not acceptable, do not lock people in buildings or spaces!

Chained Door

ACCEPTABLE: Locking a space from the inside to prevent persons from entering is acceptable. However, the door must be capable of being unlocked and openable from the inside at all times. In this example, the deadbolt is key operated from the outside only. On the inside (egress side), the door is lockable with a deadbolt operated with an ADA thumb turn. The inside lever handle retracts the deadbolt locking mechanism upon activation allowing free egress from inside the space.

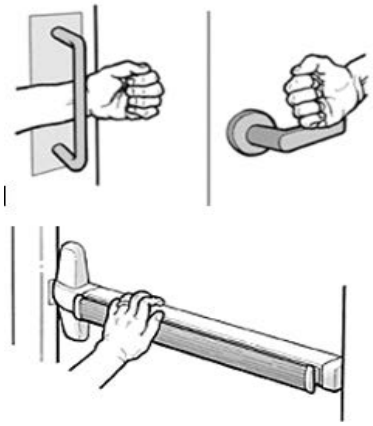


Latch Sketch & Single User Restroom Lockset

Historic Example: On March 25, 1911, fire broke out in New York City's Triangle Shirtwaist Factory. The building was designed with stairways, a number of exits, and a fire escape, however, the owners routinely locked stairway exit doors to prevent theft by the workers. Locked doors resulted in the death of 146 employees.

2. Graspability (VCC 1010.1.9.1 & ASAD 309.4):

ADA requires door handles, pulls, latches, locks and other operating devices *along an accessible route* shall not require tight grasp, pinching or twisting of the wrist. Door hardware must be easy to operate by persons with limited mobility.



ACCEPTABLE: Door pull, door lever handle lockset, push-type mechanisms such as a panic bar are easily operated by persons with limited mobility.

NOT ACCEPTABLE: Round door knobs are not accessible. The door knob is hard to grasp for those with arthritis or other problems with their hands and the knobs are difficult to turn and open.

ACCEPTABLE: Push paddle is an acceptable push type mechanism.

NOT ACCEPTABLE: Many thumb turns are not ADA accessible. Small thumb turns require tight grasp, pinching and twisting of the wrist. Use an ADA accessible type instead.

3. Reach Range (VCC 1010.1.9.2):

Door handles, pulls, latches locks and other operating devices shall be installed 34 inches minimum and 48 inches maximum above finished floor. This requirement places door hardware at a level usable by most people, including those in a wheelchair.

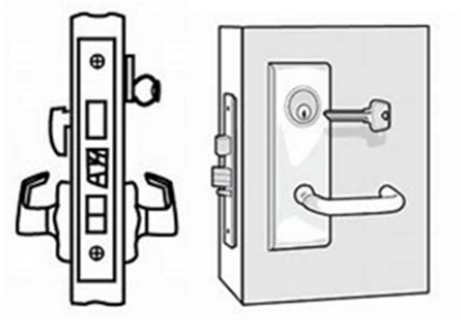
ACCEPTABLE: Hardware installed within height reach range of 34 inches to 48 inches above finished floor.

NOT ACCEPTABLE: Door locks mounted on the bottom of a required egress door are not acceptable; *except where specifically permitted elsewhere in the code*.

4. Single Operation (VCC 1010.1.9.5):

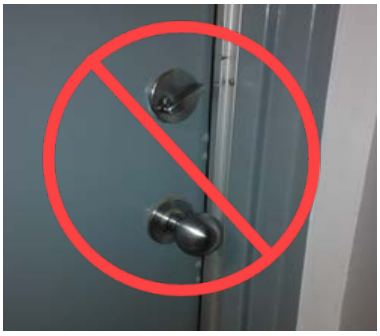
The unlatching of any door or leaf shall not require more than one operation; *except where specifically permitted by this section*. (The exceptions address residential dwelling & sleeping units and prisons.)

The code prohibits the use of locks or latching devices that require more than one operation on any door required or used for egress, which could be a safety hazard in an emergency situation.



ACCEPTABLE: Lever handle retracts deadbolt allowing egress with one operation

ACCEPTABLE: Push paddle opens the door with a single operation.



NOT ACCEPTABLE: Two operations are required to open the door. Operation #1) retract the handle & Operation #2) turn the door knob.

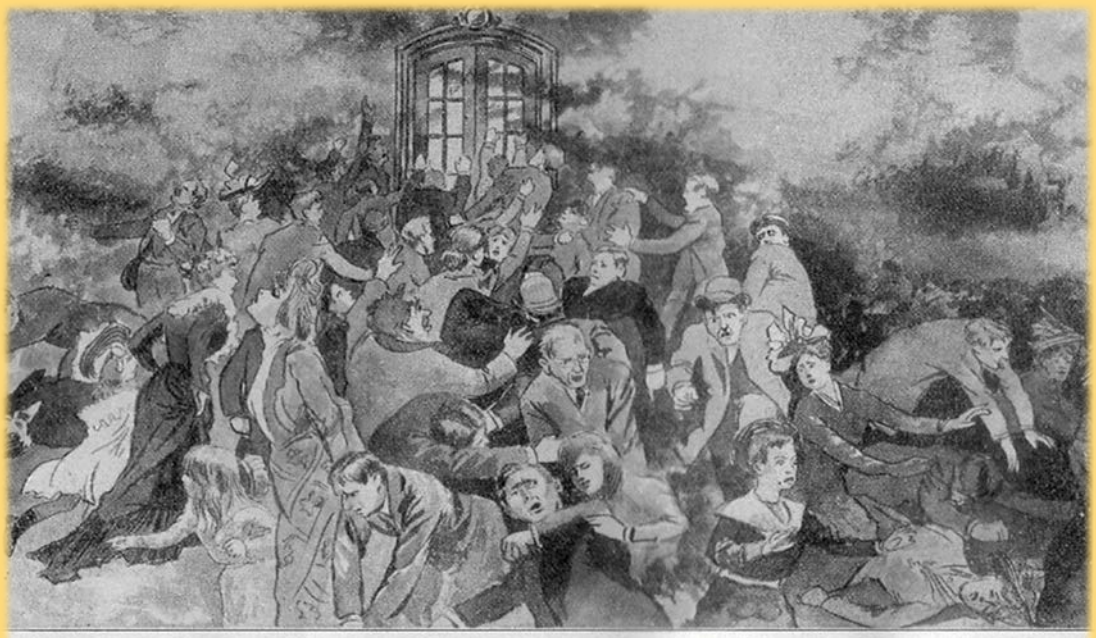
5. Panic Hardware (VCC 1010.1.10):

Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware.

Note: Classrooms educating students above the 12th grade and that have an occupant load of less than 50 are classified in Group B. However, if the occupant load in these classrooms is 50 or more, Group A-3 classification applies; VCC 303.1 & VCC 304.

ACCEPTABLE: Panic devices installed as required in Group E occupancy where the door serves more than 49 persons.

Historic Example: On December 30, 1903, fire broke out in Chicago's newly constructed Iroquois Theater resulting in approximately 600 deaths. At that time, theaters routinely locked interior doors to prevent attendees from moving into higher priced seating areas. Following this tragedy, Carl Prinzler, a hardware salesperson at the time and later a founding member of Von Duprin Company, was so moved, he committed himself to developing hardware to prevent similar tragedies. He along with Henry DuPont, developed the panic device to allow locking doors from the outside to prevent unauthorized entry. From the inside, the door could be unlocked easily and quickly, allowing for a fast escape during an emergency..



IN THE THEATER, DOORS LOCKED, PANIC, FIRE, AND DEATH.

These are five basic hardware requirements. Keep in mind, VCC section 1010.1.9, Door Operations, also addresses special locking arrangements that are allowed such as bolt locks on inactive leaf of door pairs, delayed egress locking, sensor release electrically locked egress doors, electromagnetically locked egress doors and locking of stair doors. Where locks are scheduled on the egress side of egress doors, the specific conditions of the code section must be satisfied.

To summarize Door Hardware Basics:

1. **Free Egress:** Doors openable from egress side at all times without use of key or special knowledge or effort.
2. **Graspability:** Hardware operable with one hand & does not require tight grasp, pinching or twisting of the wrist.
3. **Reach Range:** Operable Parts installed at 34 - 48 inches above finished floor.
4. **Single Operation:** Unlatching of any door does not require more than one operation.
5. **Panic Hardware:** Required in Group A & E occupancies with 50 occupants or more and all Group H occupancies.

VCCO Update

Madrika Martin with the Department of Historic Resources recently passed the Virginia Construction Contracting Officer (VCCO) certification examination.

Virginia Construction Contracting Officers are state and local government employees who have completed the necessary training and successfully passed a multi-part examination focused on state procurement law, policy and procedures. VCCOs perform several keys functions in delivering projects including the procurement of professional services; the receipt, opening and review of bids; and in some cases the approval of CO-8 forms for recommending the award of construction contracts.

CPSM and CPSM Forms Update

The following new or revised DEB forms are now available on the **DGS Forms Center**. It is recommended to download the **DGS-30-000 form**, as it contains hyperlinks to all other forms for quick access. The **DGS-30-000** also provides a brief description of the changes to the recently revised forms.

Form #	Form Name	aka	Rev. Date (mm/yy)
DGS-30-000	DEB Forms Master List		04/19
DGS-30-176	Permit for Demolition of Building on State Property	CO-17.1	04/19
DGS-30-190	Building Permit Attachment for Amusement Device	CO-17 TMP Attachment One	04/19
DGS-30-380	Transmittal for DEB Review Services		04/19