

While you wait for the webinar to begin...

Which of the following would NOT be considered a “knowing act” for the actuation of a low-energy automatic operator?

Access
Control
Reader



Wall
Plate
Actuator



Hand-Held
Remote
Transmitter



Motion
Sensor
Activation



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Welcome to the AIA Continuing
Education Webinar –
Decoded: Touchless Solutions for
Healthy Environments
We will begin in just a few minutes.

Call in: 1-866-430-4132

Conference Code: 3178103300



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ALLEGION
Decoded: Touchless Solutions for Healthy Environments
Course Number:

Class Name: Decoded: Touchless Solutions for Healthy Environments
Program: CDD20083

Provider Number: J247
Learning Units: 1
Provider Name: Allegion



2 DHI
CE Points
per 1-hour
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.1 ICC CEU
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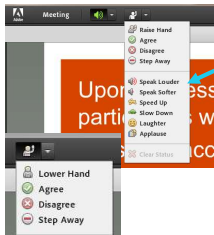
Course Description
With the increased focus on how to limit the spread of germs, many facility managers are considering their options for touchless operation of doors. This webinar will cover code requirements related to automatic operators and contactless access control, as well as accessibility considerations for new hands-free door pull designs. There will be time for Q&A at the end of the webinar.

OBJECTIVES

Upon successful completion of this course participants will be able to:

- Identify the appropriate codes and standards that apply to various types of hands-free hardware and automatic operators
- List the function of the different touchless solutions, including mechanical hardware, electrified hardware, and automatic operators
- Discuss how the requirements for fire door assemblies may impact retrofit solutions
- State the requirements of BHMA A156.19 and A156.10 that apply to doors with automatic operators

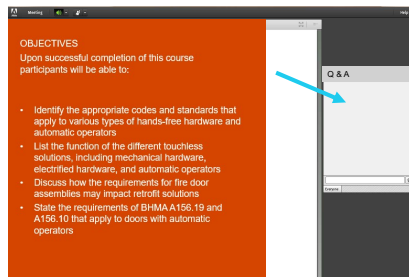
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Lori Greene, DAHC/CDC, CCPR, FDAI

- Manager, Codes & Resources for Allegion
- Responsible for support and education on building codes, fire codes, accessibility
- Development of NFPA, ICC, and BHMA codes and standards
- 25 years with the Allegion brands
- 33 years in the door and hardware industry
- iDigHardware.com

Decoded: Touchless Solutions for Healthy Environments



COVID-19 Surface Persistence

- Surface contamination study: Wuhan China healthcare settings
- Most contaminated zones: intensive care unit
- Highest levels of contamination:
 - desktops/keyboards (16.8%)
 - doorknobs (16%)
 - hand sanitizer dispensers (20.3%)



COVID-19 Surface Persistence

- Antimicrobial coatings using silver ions as the active ingredient are specifically formulated to inhibit the growth of bacteria, mold, and mildew by interrupting cell multiplication.
- COVID-19 falls into the "virus" classification of infectious diseases.
- These antimicrobial coatings are not proven to prevent the spread of COVID-19 or other viruses.



Cleaning & Disinfecting Hardware

- Follow manufacturers' instructions.
- For example:
 - No abrasive or harsh cleaners
 - Wipe surfaces gently with mild liquid detergent mixed with water
 - Do not spray or immerse
 - Wipe surfaces again with water to remove any detergent residue
 - Allow surfaces to air-dry
- CDC Guidelines for Disinfecting: <https://www.cdc.gov/coronavirus/2019-ncov/prepare/disinfecting-building-facility.html>



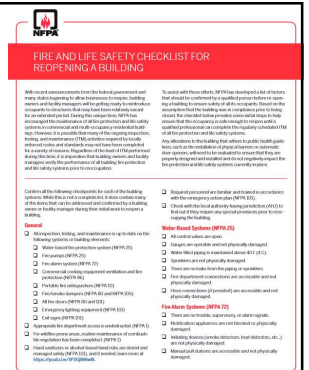
Open Doors

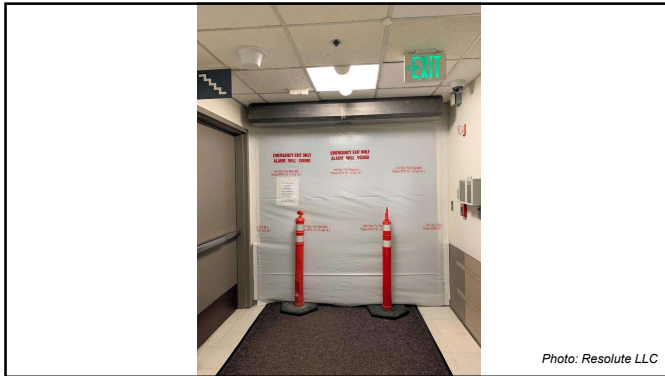
- It may be tempting to prop doors open, but this can impact security, fire protection, and energy conservation.



Guidance from NFPA

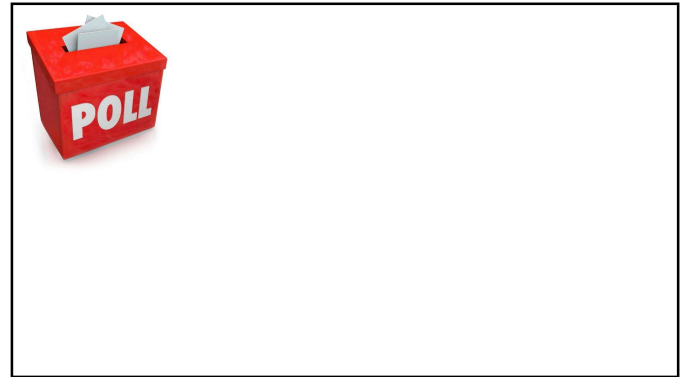
- NFPA: Fire and Life Safety Insights for Reopening Buildings
- Means of Egress:
 - Egress paths unobstructed
 - Egress doors working properly
 - Doors operable from the egress side
 - Doors not physically blocked
 - Fire doors working properly
 - Fire doors latch





Automatic-Closing Doors

- NFPA 80:
 - Automatic-Closing Door:
A door that normally is open but that closes when the automatic-closing device is activated.
 - Automatic-Closing Device:
A device that causes the door or window to close when activated by a fusible link or detector.



Automatic-Closing Devices

- Magnetic Holders
- Closer/Holder Units
- Battery-Operated or Hard-Wired Holders



Code Requirements for Touchless Openings

- Egress
- Fire Protection
- Accessibility



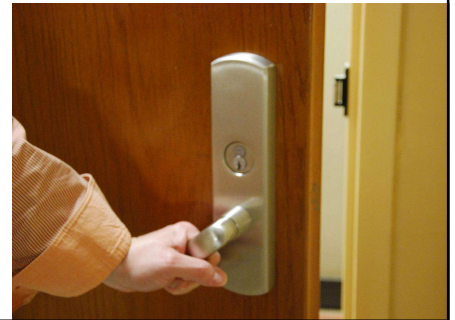
Codes and Standards

- International Building Code (IBC)
- International Fire Code (IFC)
- NFPA 101 – Life Safety Code
- NFPA 80 – Standard for Fire Doors and Other Opening Protectives
- ICC A117.1 – Accessible and Usable Buildings and Facilities
- ADA Standards for Accessible Design
- BHMA A156.19 – Power Assist & Low Energy Power Operated Doors
- BHMA A156.10 – Power Operated Pedestrian Doors



Code Basics

- Hardware must be operable with one hand and without tight grasping, pinching, or twisting of the wrist.



Code Basics

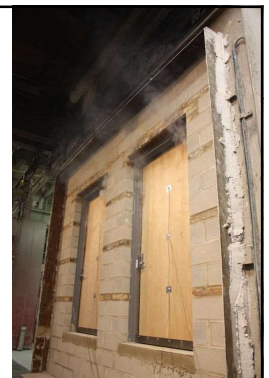
- Operation of hardware for egress must not require a key, tool, special knowledge, or effort.
- One operation must unlatch the door (with some exceptions).



Photo: Ron Burgess Jr. of the Westport Fire Department

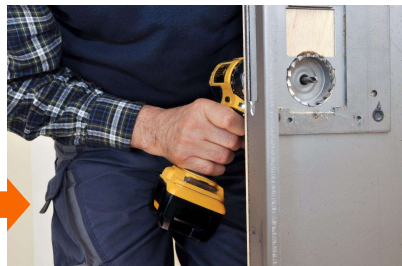
Code Basics

- According to the IBC, components of a fire door assembly must be listed to UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies.
- Fire door assemblies must comply with NFPA 80 – Standard for Fire Doors and Other Opening Protectives.



Code Basics

- NFPA 80 limits job-site preparations for retrofitting touchless hardware on fire door assemblies.
- 1-inch round holes or larger round holes if allowed by the manufacturer's listings.
- Other preps may be made as field modifications if approved in advance.



Code Basics

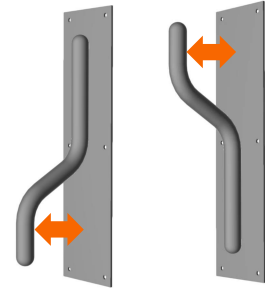
- Fire doors must close and latch to deter the spread of fire.
- Don't prop fire doors open.
- Don't remove latching hardware.





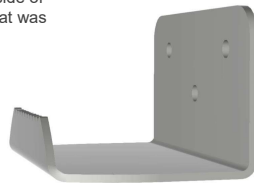
Accessibility Consideration^e

- Maintain at least 1 ½-inch of clearance behind door pulls.
- This recommendation is found in the online ADA Guide from the U.S. Access Board.



Accessibility Considerations

- Operable hardware must be installed between 34 inches and 48 inches above the floor.
- A foot pull would be acceptable on the pull side of the door if the door had an additional pull that was compliant with the accessibility standards.



Accessibility Considerations

- **Protrusion Limits.** Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.
- **EXCEPTION:** Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.

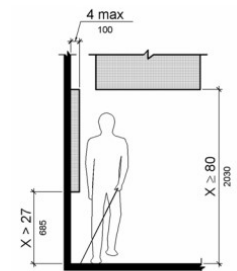
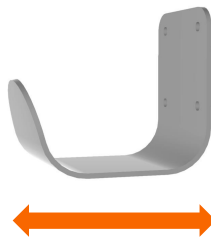


Figure 307.2
Limits of Protruding Objects

- May or may not apply to door hardware depending on AHJ interpretation.

Accessibility Considerations

- **Protrusion Limits.** Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.
- **EXCEPTION:** Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.
- May or may not apply to door hardware depending on AHJ interpretation.



Accessibility Considerations

- Lever modifications:
 - No tight grasping, pinching, twisting of the wrist
 - Can lever still be used normally?
 - Lock manufacturer's warranty
 - Fire door listings



Photo: Materialise



Touchless Access Control Readers

- Proximity cards or fobs
- Mobile credentials



Non-Latching Doors

- Hands-Free Operation
 - Push/pull
 - Electromagnetic lock
 - Electric strike
 - Electric latch retraction panic hardware
- Fire doors – latching hardware must interface with fire alarm system – fail-secure



Automatic Operators for Touchless Operation of Swinging Doors

- 3 Types:
 - Low-Energy Power Operators
 - Power Operated Pedestrian Doors
 - Power Assist Operators
- 2 Standards:
 - BHMA A156.19
 - BHMA A156.10



Low-Energy Power Operator

- Common retrofit
- Typically used for accessibility/convenience
- Opens slowly with limited force
- May be operated manually
- Must comply with BHMA A156.19
- Operated by a "knowing act"
- Suitable for touchless openings



Power Operated Pedestrian Door

- Not a common retrofit
- Typically used for high-use openings like the entrance to a grocery store
- Difficult to operate manually
- Usually operated by an activation sensor
- Must comply with BHMA A156.10
- Requires guide rails and safety sensors
- Unlikely to be used as a retrofit for touchless openings



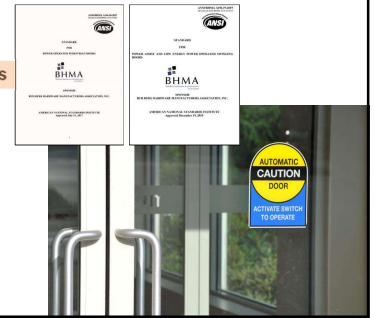
Power Assist Operator

- Not a common type of operator
- Reduces opening force for accessibility
- Door must be opened manually – operator does not open door automatically
- Must comply with BHMA A156.19
- Not suitable for touchless openings



Automatic Operators for Touchless Operation of Swinging Doors

- 3 Types:
 - **Low-Energy Power Operators**
 - Power Operated Pedestrian Doors
 - Power Assist Operators
- 2 Standards:
 - BHMA A156.19
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To comply with A156.19, low-energy operators must be initiated by a "KNOWING ACT".



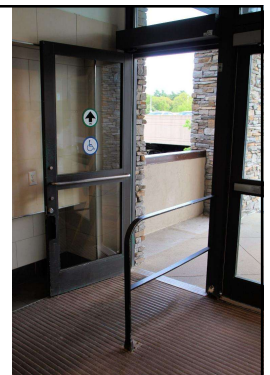
To comply with A156.19, low-energy operators must be initiated by a "KNOWING ACT".

- *Knowing Act: Any conscious action with the expected result of opening a door. This includes but is not limited to:*
 - wall or jamb-mounted contact or non-contact switches such as push plates;
 - the action of manual opening (pushing or pulling) a door;
 - controlled access devices such as keypads, card readers, wireless transmitters and keyswitches.



If a low-energy operator is not operated by a knowing act, it must comply with BHMA A156.10 – the standard for power-operated pedestrian doors.

- An activation sensor is not considered a knowing act.
- Door low-energy operator initiated by a sensor will need guide rails and safety sensors.



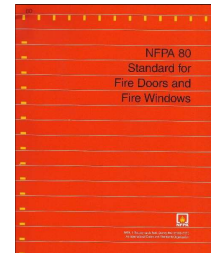
BHMA A156.19 - Touchless Actuators

- BHMA A156.19 states: *Fixed non-contact switches should have a detection range no greater than 12 in. (305mm) to ensure a knowing act is utilized to activate the door.*



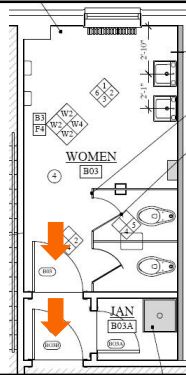
Fire Door Assemblies

- Components must be listed to UL 10C (IBC requirement).
- Job-site preparations must comply with the limitations of NFPA 80.
- NFPA 80: *Power-operated fire doors shall be equipped with a releasing device that shall automatically disconnect the power operator at the time of fire, allowing a self-closing or automatic device to close and latch the door regardless of power failure or manual operation.*



Stand-By Power

- If code-compliant maneuvering clearance is not provided on the egress side, the auto-operator must have stand-by power so it can be used in an emergency.



Stand-By Power

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Conclusion

- COVID-19 surface persistence
- Code basics for egress and fire protection
- Accessibility requirements for mechanical hardware
- Electrified options
- Automatic operators



Thank You!
 This concludes the American Institute of Architects
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 Allegion's Lori Greene.


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Webinars

Webinar 4 – Decoded: Touchless Solutions for Healthy Environments

Tuesday July 21st, 2020

With the increased focus on how to limit the spread of germs, many facility managers are considering their options for touchless operation of doors. Changes may include installing automatic operators, updating actuators and access control readers, or adding new door pulls or lever modifications. As always, it's critical to ensure that access for



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