This article continues to address the requirements of NFPA 101, 2009, and specifically 7.2.1.8 and 7.2.1.9, Self-Closing Devices.

Fire door assemblies in a means of egress route should be kept in the closed position, particularly those serving as entrances to a stair enclosure or positioned in a horizontal exit; however, it is in these two locations that door assemblies so often are held open by some type of door leaf stopping chock to aid in the free flow of normal traffic.

Recognizing that tampering with the self-closing feature might occur—and in an effort to encourage the use of effective positive measures, rather than ineffective prohibitions that often go ignored—the Code presents criteria for holding door leaves in the open position.

Specific requirements found elsewhere in the Code mandate the use of automatic-closing devices rather than making their use an option. Fusible links are not an acceptable trigger in this system.

7.2.1.8 Self-Closing Devices.

A door leaf normally required to be kept closed shall not be secured in the open position at any time and shall be self-closing or automatic-closing in accordance with 7.2.1.8.2, unless otherwise permitted by 7.2.1.8.3.

A.7.2.1.8.1 Examples of doors designed to normally be kept closed include those to a stair enclosure or horizontal exit.

7.2.1.8.2 In any building of low or ordinary hazard contents, as defined in 6.2.2.2 and 6.2.2.3, or where approved by the authority having jurisdiction, door leaves shall be permitted to be automatic-closing, provided that the following criteria are met:
1. Upon release of the hold-open mechanism, the leaf becomes self-closing.
2. The release device is designed so that the leaf instantly releases manually and, upon release, becomes self-closing, or the leaf can be readily closed.

3. The automatic releasing mechanism or medium is activated by the operation of approved smoke detectors installed in accordance with the requirements for smoke detectors for door leaf release service in NFPA 72, National Fire Alarm Code.
4. Upon loss of power to the hold-open device, the hold-open mechanism is released and the door leaf becomes self-closing.
5. The release by means of smoke detection of one door leaf in a stair enclosure results in closing all door leaves serving that stair.

7.2.1.9 Powered Door Leaf Operation.

7.2.1.9.1 General. Where means of egress door leaves are operated by power upon the approach of a person or are provided with power-assisted manual operation, the design shall be such that, in the event of power failure, the leaves open manually to allow egress travel or close when necessary to safeguard the means of egress.

7.2.1.9.1.1 The forces required to manually open the door leaves specified in 7.2.1.9.1 shall not exceed those required in 7.2.1.4.5, except that the force required to set the leaf in motion shall not exceed 50 lbf (222 N).

7.2.1.9.1.2 The door assembly shall be designed and installed so that, when a force is applied to the door leaf on the side from which egress is made, it shall be capable of swinging from any position to provide full use of the required width of the opening in which it is installed. (See 7.2.1.4.)

7.2.1.9.1.3 A readily visible, durable sign in letters not less than 1 in. (25 mm) high on a contrasting background that reads as follows shall be located on the egress side of each door opening:

IN EMERGENCY, PUSH TO OPEN

Note: Refer to 7.2.1.9.1.4 through 7.2.1.9.1.7 for sliding door assemblies.

7.2.1.9.1.8 The requirements of 7.2.1.9.1 through 7.2.1.9.1.7 shall not apply in detention and correctional occupancies where otherwise provided in Chapters 22 and 23.
7.2.1.9.2 Self-Closing or Self-Latching Door Leaf Operation. Where door leaves are required to be self-closing or self-latching and are operated by power upon the approach of a person, or are provided with power-assisted manual operation, they shall be permitted in the means of egress where they meet the following criteria:

1. The door leaves can be opened manually in accordance with 7.2.1.9.1 to allow egress travel in the event of power failure.
2. New door leaves remain in the closed position, unless actuated or opened manually.
3. When actuated, new door leaves remain open for not more than 30 seconds.
4. Door leaves held open for any period of time close—and the power-assist mechanism ceases to function—upon operation of approved smoke detectors installed in such a way as to detect smoke on either side of the door opening in accordance with the provision of NFPA 72, National Fire Alarm Code.
5. Door leaves required to be self-latching are either self-latching or become self-latching upon operation of approved smoke detectors per 7.2.1.9.2(4).

Note: Powered doors are divided into two categories—power assisted and power operated. Power-assisted doors that conform to ANSI/BHMA A156.19, American National Standard for Power Assist and Low Energy Power Operated Doors, use limited power to operate the door. Power-operated doors that conform to ANSI/BHMA A156.10, American National Standard for Power Operated Pedestrian Doors, require more power to operate the door and require additional safeguards to provide protection against personal injury.

To acquire CEP points, answer the following questions:

1. Power assisted swinging door assemblies comply with what standard?

2. Fusible links are an acceptable means of hold open devices.
   - True
   - False

3. Door leaves held open can be arranged to close simultaneously throughout the building or only in the affected area.
   - True
   - False

4. Section 7.2.1.9.2(4) emphasizes the need for the door leaf to be in what position?

Answers

You will earn 3 CEP points by reading the article and answering the problems. Upon completion, copy or detach this page, fill in the form below, and submit your answers by mailing or faxing the page to DHI.

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Retain a copy of this exercise for your Continuing Education renewal application. Answers to these problems will be posted on our website (www.dhi.org) on the first day of the next month following the issue month of the magazine.
SELF-CLOSING DEVICES

To acquire CEP points, answer the following questions:

1. Power assisted swinging door assemblies comply with what standard?
   - ANSI/BHMA A 156.19

2. Fusible links are an acceptable means of hold open devices.
   - True

3. Door leaves held open can be arranged to close simultaneously throughout the building or only in the affected area.
   - True

4. Section 7.2.1.9.2(4) emphasizes the need for the door leaf to be in what position?
   - Closed

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