

# Door Security Safety

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## Fire Door Assembly Inspections and Testing

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# INSTALLING LOW-ENERGY OPERATORS ON FIRE DOORS



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**THE PANDEMIC HAS RESULTED IN A SURGE OF AUTOMATIC DOOR OPERATOR INSTALLATIONS TO CREATE TOUCHLESS, HANDS-FREE DOOR SOLUTIONS TO MEET DEMAND FOR PUBLIC HEALTH, SAFETY AND EVEN AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE. SOME OF THESE DOORS INEVITABLY HAVE INCLUDED FIRE-RATED DOORS.**

If you're experienced and trained in working with fire-rated doors and door openings, the following will hold no surprises, as installing a low-energy automatic door operator mimics the basic function of a traditional door closer in a fire situation.

However, if dealing with a fire-rated door is outside your comfort level, we recommend you pull in an outside resource for assistance or obtain some training before installing hardware on a fire-rated door.

Why? Because the last person who repairs, replaces or modifies hardware or the door operation will ultimately bear responsibility if the door fails to perform as required in the unlikely event of a fire or emergency.

Another concern about automatic door closers is that unless you are certified by the American Association of Automatic Door Manufacturers (AAADM), we recommend you stay with low-energy automatic door operators.

## A BASIC OVERVIEW

Low-energy operators can be retrofitted to existing doors for additional cost savings while providing universal accessibility. Low-energy swinging doors are governed by ANSI 156.19 and the ADA and include these features and requirements:

- "Knowing Act" activation (push-button or push plate)

- Slow opening and closing speeds
- Low operating force
- Floor space requirements
- No guide rails required

Clear opening width—32 inches (815 mm) minimum in power-on and power-off mode—based on a clear opening provided by all leaves in the open position

Fire rated doors and frames play a vital role in keeping people safe and minimizing property damage during a fire. Many components of a door assembly can be rated to withstand fire for a specified period of time. A few of the components include:

- Doors
- Door frames
- Window frames
- Hardware
- Transoms
- Sidelights
- Glazing

Fire ratings are granted by third-party testing agencies and are labeled on the products. The doors must meet the requirements of the International Building Code and International Fire Code, as well as NFPA 80.

Additionally, building codes dictate the fire rating requirements for the wall.

Tech Tips highlights useful technology tips for door installation and service. If you have an idea for a Tech Tips article you want to submit, contact *Door Security + Safety* Editor Al Rickard, CAE, at [arickard@dhi.org](mailto:arickard@dhi.org).

This is based on the location of the wall, building use and more. The fire rating of the wall dictates the required fire rating of the door. Fire-rated openings are common in stairwell and elevator lobby door situations and will need to meet compliance with the Authority Having Jurisdiction (AHJ) that enforces the codes. Some key requirements are:

- Code requires self-closing and latching.
- Free egress is critical for life safety.
- Positive mechanical latching is mandatory.
- Specific circumstances will dictate whether electrified components can be fail-safe or fail-secure.
- Modifications to install hardware might require re-certification of a door or frame.
- Electrified hardware is typically tied into the fire system to release in the event of fire, power failure or other emergency.

This is where knowledgeable application of low-energy operators on fire-rated doors comes into play.

The primary function of any door closer—mechanical or powered—is to hold the door open long enough for access and egress before closing. Automatic door closers on fire-rated doors will require a connection to the fire system to function correctly as a door closer in the event of a fire. This means that upon closing, the door must latch to maintain fire integrity in the corridor or area being protected.

Our recommendation is to consider the door first. Is the door part of a marked exit path for fire and life safety? Will you need to install ancillary hardware

A fire-rated door with a low-energy operator.

Inset: A fire rating shown on the door label.



such as an electric strike to latch the door in an event? If so, this will alter the door opening and make you responsible for its proper function in an emergency. Depending on what you do for your project, reinspection and/or re-labeling of the fire door may be required.

That said, make sure all the door hardware is in good operating condition before installing the low-energy door operator or any additional hardware. Inspect how the door functions in terms of alignment and latching. Does it close properly without binding or rubbing? Does it positively center? What is the

current environment and the conditions the door operates in? Door handling, the type and size of door, and the type of door header and frame are also important to confirm, as well as the existing lock, hinge, door closer (if any), ceiling type and height, distance from power supply and more.

If you educate yourself about basic considerations when installing a low-energy operator on a fire-rated door, you should approach your project with confidence. If questions persist, consult an expert or at least research some of the codes and organizations referenced above for more details. +

