



# Inspection, Testing, and Maintenance of Swinging Fire Doors on College Campuses

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### Introduction

**Fire Doors:** Most likely not the first fire protection system we think of in buildings on college campuses, but certainly a system that is critical to the protection of life and property in and around campus buildings. Fire doors help protect the openings in fire rated assemblies and prevent the spread of fire and smoke into adjacent areas in building. They are a critical component to protecting areas in buildings such as exit stair enclosures, hazardous areas, and corridors. Without adequate inspection, testing, and maintenance of these systems, the life safety of occupants and the integrity of buildings can be compromised.

### Background

In 2007, NFPA 80, *Standard on Fire Doors and Other Opening Protectives*, introduced a requirement that all fire door assemblies must be inspected and tested on an annual basis. This change has had a

great impact on buildings, as prior to this change, little enforceable guidance was provided with regards to the inspection, testing, and maintenance of fire doors. The inspection, testing, and maintenance provisions have continued to evolve as newer editions of the standard have been developed. The current edition of NFPA 80 is 2013\*.

The edition of NFPA 80 that is referenced by the adopted model code is what is applied to a building. As jurisdictions are adopting newer editions of the codes, the annual inspection requirement is becoming effective in more locations. This has resulted in an increased awareness of properly protecting fire doors and openings and maintaining these systems in proper working condition.

### ITM Requirements

Inspections and testing of fire doors are required at any of the following times:

upon completion of installation of the new fire door assembly, annually as part of the required periodic inspection, and after any maintenance corrections have been performed on the door. A visual inspection and an operational test are required at these times. NFPA 80 provides the minimum criteria that must be verified during any of the required inspections:

- (1) Labels are clearly visible and legible.
- (2) No open holes or breaks exist in surfaces of either the door or frame.
- (3) Glazing and its components are intact and securely fastened in place.
- (4) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
- (5) No parts are missing or broken.
- (6) Door clearances do not exceed the minimum criteria.



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(7) The self-closing device is operational

(8) If a coordinator is installed, the inactive leaf closes before the active leaf.

(9) Latching hardware operates and secures the door when it is in the closed position.

(10) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.

(11) No field modifications to the door assembly have been performed that void the label.

(12) Meeting edge protection, gasketing and edge seals, where required, are inspected to verify their presence and integrity.

(13) Signage affixed to a door meets the appropriate requirements.

At the time of the inspection, fire doors should also be tested to ensure that they operate properly, including self closing and self latching without encountering any obstructions.

During the life of the fire door, proper maintenance is required to uphold the

fire door assembly in good working condition and increase the chances that it will perform properly in a fire. Repairs shall be made, and defects that could interfere with operation shall be corrected without delay. Caution should be taken when making any modifications to a fire door that may void the label on the door. NFPA 80 provides detailed guidance on what to do should a change to a fire door be desired.

### Responsibilities

Building owners/management, fire door inspectors, and enforcing officials all have responsibility to ensure that required fire door inspections, testing, and maintenance is carried out. First, building owners or the designated safety personnel are responsible for scheduling the necessary inspections and ensuring that any deficiencies and maintenance issues be corrected in a timely manner. In addition, it is their responsibility to designate or hire fire door inspectors that are qualified to do the job. For 2013, NFPA 80 requires that all fire door inspectors be qualified. Therefore, fire door inspectors are those, by possession of a

recognized degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, have demonstrated the ability to deal with the subject matter, the work, or the project. Building owners are also responsible for maintaining records of the inspections at a location available to the AHJ. Also new to the 2013 edition of NFPA 80 is additional provisions regarding the types of records, retention periods, and the required information in the records. Newer technology is becoming available which allows for all fire door inspections to be electronic. Electronic records are acceptable and maybe very useful for buildings or entire college campuses where many fire doors are present.

Fire door inspectors are hired by building owners to perform the required inspections in fire door assemblies throughout the building. They must be educated on the provisions of NFPA 80 so as to conduct the inspections appropriately and in accordance with the standard. Finally, the AHJ is responsible for verifying that the fire door inspections have oc-



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curred at the required intervals and that the records have been retained to document the inspections. AHJs ensure that the appropriate standards have been followed and the person(s) performing the inspections are qualified.

On college campuses, especially in dormitory settings, students should be educated on the function and purpose of fire doors. To help ensure proper operation, fire doors may not be propped open with wooden wedges or kick stops, or any other auxiliary hardware items that may interfere with their operation under fire conditions. NFPA 80 contains specific criteria for door signage and other maintenance issues that occupants of college campus buildings may encounter.

When working together, the building owners, fire door inspectors, and AHJs make certain that fire door assemblies throughout college campus buildings remain in full working condition and will operate properly under fire conditions, keeping students, faculty, staff, and visitors safe.

\*For full details regarding the inspection, testing, and maintenance of fire doors, please see NFPA 80, *Standard for Fire Doors and Other Opening Protectives*.

### BIO

*Kristin Bigda, P.E., is a senior fire protection engineer in the NFPA Building Fire Protection and Life Safety Department and serves as staff liaison to several Safety to Life and Building Code technical committees. Kristin also assists in the development of NFPA 1, Fire Code, and other documents pertaining to fire doors and windows, contents and furnishings, and fire risk assessment methods. Prior to joining the NFPA staff in 2007, Kristin attended Worcester Polytechnic Institute where she received degrees of Bachelor of Science in Civil Engineering and Master of Science in Fire Protection Engineering. Kristin is also a registered Professional Engineer in the discipline of Fire Protection in the Commonwealth of Massachusetts.*