Fire Door Inspections Are Vital

Annual inspections, compliance and maintenance save lives and property

By Justin Hendricks, FDAI, and David Moyer, FDAI
Over the course of four years ending in 2014, an average of 498,400 commercial structural fires occurred every year, and fire sprinklers were present in only 10 percent of these fires.

According to these National Fire Protection Association (NFPA) statistics, of the almost 449,000 fires in non-sprinklered facilities, fire spread beyond the room of origin in nearly 30 percent (130,000) of these cases, resulting in substantial property loss.

Proactive facility and company managers seeking to minimize losses from fire must take preventive action to minimize the effects of fire on a facility, business continuity and life safety. Failure to properly inspect and maintain fire door assemblies and other opening protectives, especially in non-sprinklered buildings, could result in jeopardizing the safety of building occupants as well as substantial property damage and liability claims in the event of fire.

Enforcement and Compliance
Beginning with the 2007 version of NFPA 80: Standard for Fire Doors and Other Opening Protectives, there has been a steady increase in enforcement and documentation of annual testing and inspection of fire door assemblies and other opening protectives as jurisdictions have adopted the newer versions of the building and life safety codes.

As of January 1, 2018, the Centers for Medicare & Medicaid Services mandated that full compliance with annual fire door assembly inspection and testing conducted in accordance with the 2010 version of NFPA 80 is required for Health Care Occupancies.

A Federal requirement such as this is a primary reason for increased enforcement of these annual inspections. Increased enforcement in one sector, such as healthcare, can also lead to other types of occupancies such as education following suit and receiving a similar amount of scrutiny and enforcement from the AHJ (Authority Having Jurisdiction) community.

NFPA 80 requires that operational testing and visual inspection of all opening protectives be performed not less than annually. Records of these inspections must be kept on file and made available to the AHJ.

Elements of a Visual Inspection
The visual inspection includes a review of several different items that place emphasis on the entire opening protective, including the door, frame and hardware. These items include, but are not limited to, verifying that the certification labels on the assembly are clearly visible and legible, verifying the condition of the door, frame and hardware (no holes, breaks or missing parts), ensuring hardware performs its intended function and is operational and ensuring that door-to-frame clearances required by the standard are not exceeded.

These operational tests and visual inspections are meant to ensure that the opening protective is in good working order and that it will not compromise the safety of the building occupants in the event of a fire.
NFPA 80 UPDATES
The Who, What, When, Where, and Why

BY JUSTIN HENDRICKS, FDAI, AND CHARLIE MEYERS

NFPA 80, the Standard for Fire Doors and Other Opening Protectives, was established to set national standards for the installation and maintenance of assemblies used to protect openings in walls, floors, and ceilings that prevent or slow the spread of fire and smoke from a fire’s origin to adjacent rooms or to the interior or exterior of a building.

NFPA 80 also provides guidance to Authorities Having Jurisdiction (AHJs) that can help determine whether a product in the field meets the requirements set forth in the standard. Manufacturers, facility managers, installers, inspectors, and AHJs frequently reference this document because they understand that opening protectives are a vital aspect of fire protection and are critical to maintaining the safety of building occupants.

Who?
Recent changes to NFPA 80 affect manufacturers of fire doors, fire door frames, fire windows, oversized doors, and products labeled in the field, as well as companies that are approved by certification bodies to modify and relabel certified fire doors and fire door frames. The revisions to the requirements, along with the guidelines outlined in the standard, will make it much simpler for AHJs to determine compliance to building code.

What?
One of the more impactful changes to NFPA 80 in the 2016 edition was the inclusion of detailed provisions for the information required on labels for fire doors, fire door frames, fire windows, and oversized doors. The revisions to the requirements, along with the guidelines outlined in the standard, made it much simpler for AHJs to determine compliance to building code.

Label requirement updates include, but are not limited to:
• The inclusion of the standards the assembly was tested to.
• The rise in temperature transmission.
• The minimum latch throw for swinging doors that are provided with builders’ hardware.

Most recently, in September 2018, the 2019 version of NFPA 80 was released. The significant change in the 2019 version is that field labeling must now be performed by the listing agency that inspects and labels the product in question. The verbiage was changed to confirm the new requirement. NFPA Code 5.1.4.1 now reads, “Field labeling shall be performed by the listing agency that maintains periodic inspections of production of the labeled equipment or materials under review, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.”

When?
The most recent version of NFPA 80 is the 2019 edition, published in September 2018. The next iteration of the International Building Code (IBC) will be in 2021. This will then reference the 2019 version of NFPA 80, which highlights the new direction of the industry. The adaption will require field labeling to be performed by the same listing agency that inspects and labels the product. Some AHJs may implement this version of NFPA 80 into their system prior to the next code cycle.

Where?
Once the 2021 International Building Code (IBC) goes into effect, the requirements of NFPA 80 will be evaluated and upheld by AHJs throughout the United States. Any product installed in a jurisdiction that recognizes the IBC must meet the updated labeling specifications.

Why?
Previous versions of NFPA 80 lacked clarity regarding the agencies that could perform field labeling services on products. Representation in the case that something goes wrong is critical and machiners need to remain confident that they are represented by staff with the correct expertise. Fire doors act as protection for both life and property, therefore, the new requirement to have field labeling performed by the same listing agency minimizes risk towards future business, life, and property.

Field Labeling
Field labeling may become necessary for a variety of reasons, such as field modifications, doors leaving factories without labels, incorrect labeling, or labeling that has been painted over or removed. When field labeling services are required, AHJs and manufacturers need to be assured that the body conducting the field labeling service has an in-depth knowledge of the doors and frames that they are labeling.

It is critical that the field inspector have access to the supporting documentation for the doors and frames that they are labeled to correctly identify and address field modifications and properly re-label the opening protective.

Manufacturers work with their certification bodies to ensure that all their opening protectives have been correctly labeled by an accredited third party prior to being installed, which will help avoid the risk and liability on the back end that comes with mislabeled products. However, when products are found at the job site that are not correctly labeled, the certification agency has the knowledge to re-label these doors when appropriate.

22 APRIL 2019 DOOR SECURITY + SAFETY
Glass that is cracked, items that interfere or prohibit operation of the door (such as door chocks and wedges) and missing gasketing/seals are just some examples of issues that can allow breach of flame during a fire and greatly reduce the possibility of fire containment.

Some door assemblies may appear to be in working condition but may be missing smaller items such as strike plates. Others may incorporate door controls or astragals that do not quite close the door properly.

These issues can lead to premature degradation of the opening protective during a fire or the fire spreading beyond the room of origin if the door is not properly closed, latched and secured in the opening.

Excessive door clearance issues are routinely seen in the field and can contribute to a variety of issues with both wood and metal doors and frames. An excessive gap on the latch side of the door assembly can lead to reduced latch engagement into the frame strike, which limits the ability of the latch to keep the door closed during a fire.

For door and frame assemblies that require intumescent edge seals or smoke and draft gaskets, excessive clearances between the door and the frame or between the meeting edge of a pair of doors will lead to an increased area that the intumescent or gasket material must fill in order to seal the gap.

If a smoke and draft gasket does not fully seal the perimeter of the door assembly, the opening protective may allow for an excessive amount of leaking smoke that may injure building occupants who remain in a building or are trying to evacuate during a fire.
Likewise, if the intumescent material fails to completely fill the gap, flame penetration and the formation of through openings between the door and frame interface or between the meeting edge interface can occur, resulting in the opening failing to contain and prevent the spread of fire.

**Opening Protective Standards**

Opening protectives that are modified in the field beyond what is allowed in NFPA 80 require authorization from the agency that certifies and lists the product. Certain modifications may be handled through engineering evaluation, while others may require additional testing or replacement of the affected components.

The recently released 2019 version of NFPA 80 includes a significant change regarding field labeling. In this latest version of NFPA 80, field labeling must be performed by the listing agency that inspects and certifies the product in question.

While the most recent version of NFPA 80 may not be adopted by all jurisdictions immediately, some AHJs may implement this version into their system prior to the next code cycle so it is beneficial for facility managers to be aware of standard and code changes as well as timelines for the code cycle.

It is crucial for building owners and facility managers to understand both the annual inspection requirements of NFPA 80 and NFPA 101 as well as the allowable field preparations within NFPA 80. Having knowledge of these items and incorporating them into a maintenance plan will help improve the longevity of the opening protective and preparedness for annual inspections.

Consulting a certification agency’s online product certification directory will also help to understand the requirements and limitations of doors, frames, and their applicable hardware.

NFPA 80 requires annual inspection and testing be performed by a qualified person, which the 2010 edition of the standard first defined as, “A person who, by possession of a recognized degree, certificate, professional standing, or skill, who, by knowledge, training, and experience, has demonstrated the ability to deal with the subject matter, the work, or the project.” The AHJ is ultimately responsible for determining if the qualified person selected to perform the inspection and testing has acceptable credentials.

There are several options for training and certification of individuals interested in performing annual fire door inspections, such as the Door and Hardware Institute’s Fire and Egress Door Assembly Inspection (FDAI) Program and the Intertek Qualified Personnel (IQP) Fire Door Inspector program, which is an add-on to the DHI FDAI program.

Programs such as these help ensure AHJs and building owners that a person has the specific knowledge and guidance to perform annual inspection and testing of fire door assemblies and other opening protectives.

Many disasters are preventable and ensuring that your facility is in compliance with the requirements of NFPA 80 and NFPA 101, in addition to maintaining a regular maintenance schedule for opening protectives, will ensure building integrity and the safety of building occupants in the event of a fire. +

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