

To Drop Simple, or Not

A case for fire-door readiness

David Dawdy

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Not that many years ago, I began asking the question, "Do you teach your property owners and managers how to drop test their own fire doors?" Reactions would vary from the classic, "Are you nuts?!" look to starting a (sometimes heated) debate. It was a risky move on my part, but a learning experience for all parties involved.

One of my classic lifetime educational mentors, let's just call him "Clem," believed in hands-on inspection, evaluation and resolution – all at once. He was a real pro. Due to his vast experience and unsurpassed knowledge, my first fire door drop-test experience was a brilliantly executed event. It occurred with no training, no factory installation manual, no drop-test form to reference; I had no idea what NFPA 80 was and only a vague idea of the expected outcome from this exercise. What happened next, when Clem released the cable from high above, scared me so badly that I almost went into shock. The tension-release mechanism performed just fine to put the door out of balance, but part of the governor on the drive-side headplate had been removed, rendering it completely useless.

When the cannons finally stopped and the smoke cleared, I discovered my fearless leader slowly descending the ladder. Once safely on the ground, he collected himself just enough to suggest that I go find a telephone to call the shop for suggestions in resurrecting the mess at which we were now staring.

This story is true, with the exception of the name and the cannons. It helped to instill in me a strong respect for the engineering and design expectations of fire doors, and it sparked a further interest in discovering safer, more reliable and infinitely simpler fire-door systems.

Today's fire-door climate has undergone gradual but significant changes. An expanding segment of door professionals has embraced and contributed greatly to the concept of promoting modern fire doors that are simple to evaluate and uncomplicated to drop test. This attitude is prevalent with their sales people, installers and service techs. When they talk fire doors, you quickly realize that it's all about making the product safe and uncomplicated for everybody involved, including the building owner. Based upon my own observations and personal discussions, it seems that once a person dips his toe into the waters of the easy-to-test fire door and shutter concepts, he will rarely go back to old standards. The reasoning is sound and the market is more sophisticated and demanding than ever before.

Within the United States, most fire-door manufacturers offer one or more types of easily tested and reset fire doors. Some are motor operated, some are chain-hoist operated and some may be crank or manual operation. Some are counterbalanced with spring wire and some are not. Most use modern, quiet governing devices, and some of those are adjustable to control the rate of descent. All will adapt readily to fail-safe operation and are relatively easy to set up as stand-alone or integrated fire-control systems. They all have different names and models, but the common threads are the simplicity of installation, ownership and elevated incentives to follow regular, planned drop-testing schedules meeting or exceeding the mandates of NFPA and other model groups.

There is typically no requirement for the easily tested fire door to lose tension to initiate a drop test or fire activation. The door begins life in an out-of-balance condition and stays that way for its useful life cycle. This condition sounds ridiculous to those of us who are balanced door loonies; however, it has a negligible effect on operational performance and is virtually unnoticeable to the end user, particularly in chain-hoist and motor-operated models. Eliminating the considerable time spent by installer(s) rigging dual-cable routes – not to mention tuning tension-release assemblies to work reliably and predictably – is a powerful notion for a business manager to consider. Eliminating almost all of the time spent going up and down via lift or ladder to complete test drops and resets is nothing to scoff at, either. Most modern designs make much of this unproductive motion unnecessary, creating increased time that's more profitably spent on billable work hours.

I mentioned that a sometimes-heated debate may occur when the discussion involves owner testing of fire doors versus trained service technicians. Translation? Billable service hours for drop testing and resetting fire doors. I believe there are valid and passionate arguments on each side of the aisle that bear merit. I also believe there is considerable middle ground to occupy. I refer to NFPA-80, 2007 5.2.3.1, which states, "Functional testing of fire doors and window assemblies shall be performed by individuals with knowledge and understanding of the operating components of the type of door being subject to testing."

A noteworthy owner-related advantage to a modern, simple-to-test fire door is the absolute simplicity of interim testing and resetting by not-so-technical personnel. In the case of easy test motor operation, many modern systems are fully reactivated after a power failure or alarm condition, and are restored to ready condition by simply pushing the "open" button on the three-button station. This small act is not rocket science, and most owners would balk at paying a door dealer to come push the open button for them. Building owners like these types of fire doors and demand proves it. Is it fair to interpret NFPA such that the owner has no business periodically inspecting and testing the function of his fire doors and recording the

activity on a proper drop-test form? If the owner drop tests a fire door and resets it in accordance with NFPA 5.2.4.² and NFPA 5.2.5.2, and as per the manufacturer's instructions (NFPA 5.2.14.3.1), should he not be considered somewhat knowledgeable of the operating components?

Let's take one more step closer to the edge. If he is trained by our own personnel to responsibly inspect, drop test and reset his fire door several times through the course of the year between our annual inspections, and to document the drops and inspections per a standard inspection and reporting format, may this not be viewed as beneficial and complementary to our own efforts?

I offer one simple argument to this debate that I believe in strongly: It should be the goal of the involved service company and building owner to collectively perform every reasonable task to ensure that the fire doors of interest remain in a continual state of readiness throughout the year. It is infinitely more desirable to ensure this condition, than to suffer the consequences.

NFPA-80 5.2.14.³ states: "All horizontal or vertical sliding and rolling fire doors shall be inspected and tested annually to check for operation and full closure."

This passage, when combined with NFPA 5.2.3.¹ mentioned above, is argued to support the case for a trained door technician to perform an annual inspection, drop test, reset and proper documentation. I agree, in that it requires a trained and experienced eye to spot conditions or to identify any damaged or missing parts that can create a hazard during testing or affect operation or resetting (see NFPA-80 5.2.3.2).

This is our ace in the hole. It is the intent of NFPA to ensure that annual inspection, drop testing and resetting (twice now per 5.2.14.3.5), is performed not only by someone knowledgeable of how the entire system is supposed to work, but by someone who has the resources to make the necessary repairs or replacements with factory parts. This is our domain, and we should be contracting to inspect and drop test the client's doors at least once a year – no matter the argument.

Remember that our goal is not to pass the doors on inspection and test; our goal is to ensure that they are in a continuous state of readiness and code compliance, installed in a manner and condition consistent with the way the factory engineered them. It is our secondary goal to pass the doors successfully. You may want to note this as "sales opportunities."

If we are invited to a facility where another company installed the fire door(s) originally, we will want to inspect the installation – fusible link location, anchors, etc. – for compliance with the installation instructions for that door. (The installation manual is our bible for any drop test and a topic for another article).

The modern, simple-to-test door added an unexpected dimension to our lives as fire-door gurus: It gave the building owner the temptation and perceived ability to test his own doors – something we can't prevent. Annual testing is a must, and if interim testing is promoted, perhaps your service base can be developed to increase annual drop-test revenues.

Any informed and responsible building owner knows that it is his duty to ensure his fire doors are maintained properly to meet model code or insurance mandates, and to help reduce his own profile of liability. His insurance company or underwriter may demand specified, planned testing as a conditional requirement. He should know that he needs his doors inspected and tested by professionals at least annually to achieve this. (Please note that not all states subscribe to NFPA-80 mandates.) He may or may not know that original factory repair parts are required for his fire doors.

Let's visit a classic scenario: Your company installed fire doors in the ABC Building on March 12, 2007, and set up the first annual inspection and drop test for March 12, 2008. Great job. You are already ahead of the curve established by much of your competition; however, there was no provision or plan for interim owner testing.

One of our all-time favorite characters, "Mickey" (Clem's cousin, the forklift driver), inadvertently clipped one of the door guides about 7 feet from the floor with his forklift. This occurred on April 1, 2007, not too long after the installation took place. Since nobody saw him do it, Mickey simply dismissed it and considered himself lucky not to have been caught. At the height the damage occurred, it was never noticed. Ten months later, on Feb. 13, 2008, you are notified that you are being named into the investigation of the fire that occurred on Feb. 12, 2008, at the ABC Building because "your" fire door failed to close. This "failure" allowed the passage of flames that ultimately destroyed the adjoining building segment and its contents.

Upon alarm, the fire door had activated and began to close like it was supposed to, but stopped when it hit the Mickey-ed-up portion of the guide. The fire door had been locked out of commission for more than 10 months. Ten months! I think it is fair that we recognize this scenario as a familiar and somewhat likely occurrence. How can we improve these conditions and reduce the potential of a catastrophic loss? Easily tested fire doors and interim testing help provide the answer.

Had the owner been aware of and trained for interim in-house inspection and drop testing to help ensure the state of readiness for his fire doors, this damage would have been caught and repaired much earlier in the year. It is also reasonable to assume that this informed and responsible owner would have called you to make these necessary repairs as

soon as possible to avoid the potential trauma of the Feb. 12 catastrophe. Remember, you would have become his partner, his go-to person – who offered training, code expertise, factory parts replacement and support – not just the guy who sent a nice fat bill for drop testing fire doors every spring.

Based upon literally hundreds of discussions with building owners, property managers and door professionals, these assumptions are confirmed. The smart owner/manager will not purposely and knowingly accept the potential liability of nonfunctional fire doors. Fire doors and drop testing are a well-shrouded mystery for the bulk of these folks, and most would welcome a change. Interim planning and less complicated fire-door systems make inexpensive in-house inspection and testing possible for the owner. As a door professional, you can operate from a much more proactive position, and the ever-present liability issues lose a great deal of traction for everyone.

Easily tested fire doors enable the owner to shop insurers and negotiate more attractive property insurance rates. You have truly empowered him. With this additional incentive added to inherently reduced liability and reduced cost of ownership, you have established yourself as a true professional and a problem solver. This definitively accomplishes our collective goal of aggressively preventing catastrophic loss. Ancillary potential for service, and retrofit sales involving other doors within the facility, are no-brainers for any good service salesman.

Easily tested fire doors have forced a gradual but dynamic evolution in our industry. This evolution is a good thing, and it is here to stay. Recognizing the resulting opportunities will ensure our discovery of far greater potential in the future.

David Dawdy has been involved in the commercial construction industry since 1974, and has worked directly in the overhead door industry for the past 25 years. He is the commercial products and architectural services manager for Janus International, located in Temple, Ga.