

The Old Rolling Fire Door Ain't What She Used To Be... *and that's a GOOD thing!*

by Steve Hahn

Wham! – Clack! – Clack! – Clack, clack, clack, clack, clack! The old familiar sounds of a traditional rolling fire door automatic closing system – the impact of spring tension loss and the rattle of a mechanical governor struggling to prevent the door from crashing closed. And then, of course, came the hassles of raising the door, re-winding spring tension, re-engaging the gearing and governor, re-connecting the fusible links . . .

Rolling fire doors have changed a lot over the years! Twenty years ago, it was estimated that approximately 20% of fire doors failed to close. Today, rolling fire doors are available with a “new generation” of closing systems – and their failure rate is now estimated to be approximately 2%! Code mandated drop testing and maintenance requirements, coupled with increased awareness through industry educational efforts, have also played a role in improving performance.

Fire doors with traditional spring tension loss were intended to release when the door was open and would often be damaged if released when the door was closed. With the “new generation” of fire doors, this is no longer a concern.

Rolling fire doors can be designed to close automatically upon separation of a fusible link, or after initiation by a smoke detector or alarm, without a loss of spring tension.

Traditional automatic closing systems also required separation of the gear train used to operate the door. This often meant a multitude of reduction gears that were prone to wear after repeated operation and drop testing. The simpler, more efficient designs integrated into today's “new generation” systems mean that rolling fire doors can now confidently be used even in applications where high-frequency operations of 50,000 or 100,000 cycles may be required.

The elimination of spring tension release and the use of more efficient drive systems, combined with significant

improvements in governor designs to control the rate of descent, mean rolling fire doors are now much more reliable, provide repeatable performance, and result in much slower and safer closing speeds. Another major benefit derived from these newer systems is that they eliminate the need for traditional mechanical resetting of the door after automatic closing. *

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**Photo to the Right. The elimination of spring tension release and the use of more efficient drive systems, combined with significant improvements in governor designs to control the rate of descent, mean rolling fire doors are now much more reliable, provide repeatable performance, and result in much slower and safer closing speeds.*





TECHNICAL

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***Chain, crank and motor operated fire doors are now commonly available with closing systems that can be easily reset by simply reconnecting the fusible link – or automatically reset by merely clearing the alarm and restoring power – then reopening the door.*

Chain, crank and motor operated fire doors are now commonly available with closing systems that can be easily reset by simply reconnecting the fusible link release and reopening the door. Other systems that close the door after detector or alarm activation, or are failsafe closing upon a loss of power, can be automatically reset by merely clearing the alarm, restoring power and reopening the door. The most advanced detector/alarm activated systems will even close the door through the motor operator, stop the door if it contacts an obstruction dur-

ing closing, and continue closing when the obstruction is removed, or revert to failsafe operation if power is lost. **

Changes in test standards over the years have resulted in many fire doors being approved for installation on masonry and non-masonry wall construction. Some doors can be fire rated up to 4 hours, and some can even be provided with an S-Label as an air-leakage rated door assembly.

The old rolling fire door definitely ain't what she used to be. She's developed into a very sophisticated piece of fire protection equipment – one that is often relied on to protect the largest opening in a fire wall. And as with any other element of effective compartmentation, when properly designed, installed, inspected and maintained, she does her job well!

Steve Hahn is Product Manager for Lawrence Roll-Up Doors, Inc. He has been in the rolling door industry for more than 30 years, is a member of the NFPA-80 Standard for Fire Doors and Fire Windows Technical Committee, serves on three UL Standards Technical Panels, and is past-president of the American Rolling Door Institute.

