

TECHNICAL

The “Outside” Scoop on Fire Doors



By Steve Hahn

Most discussions about fire doors focus on their primary application as protection for openings in interior walls of buildings. But what about fire doors installed in openings on outside walls of buildings?

Rolling fire doors are sometimes found in locations such as loading docks, trash enclosures, transformer vaults, parking garage entrances, or even over windows. This is usually because of an opening's proximity to a property line or extensions of the same building structure, or a need to protect a building from the risk of exterior fire exposure.

When fire doors are installed in openings on outside walls, factors often taken for granted may need to be considered.

Windload

Since fire doors are used primarily for the protection of interior openings, they are generally not specifically designed for windload. This may or may not be a concern on smaller size doors – fire doors often have deeper guides than service doors – so they may be capable of withstanding similar loads. Fire doors usually do not have windlocks, which on larger size doors may

be necessary to retain the curtain in the guides even under “normal” windloads. Fire doors are available with windlocks from some manufacturers.

Automatic closing function

Depending on the severity of the wind pressure against the outside of a fire door curtain – and the potential to be combined with negative pressure on the building interior – the ability of a door to close automatically in a fire condition may be effected. As with most rolling doors, operability under windload may be a special consideration.

High-cycle operation

Because many fire door operating/closing systems have a series of gears and drop-out mechanisms, they may not be intended for the demands of frequent usage such as that commonly required on a parking garage entrance or loading dock. Fire doors utilizing motor operators with an internal release and governor that simply drive a sprocket on the main door shaft may be a more efficient choice for high-cycle applications.

Fusible link location

Depending on the location of the fire exposure, fusible links (or detectors) may have to be installed on the outside of the building.

Weather protection

Per the requirements of NFPA 80, when a fire door is installed on the exterior of a building, it needs to be protected from exposure to weather conditions that could ultimately effect its operation or performance. Mechanisms should be covered and other precautions should be taken to eliminate the potential effects of corrosion or other factors that could prevent the door from closing in a fire condition.

It may be a good idea to consult with the manufacturer when a fire door is to be used on an exterior opening and make sure it is suitable for all the conditions required for that application. And as always, consult with the Authority Having Jurisdiction if there is any question about what is required.



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