

The Technology of Flexible Sprinkler Systems

By Norm MacDonald

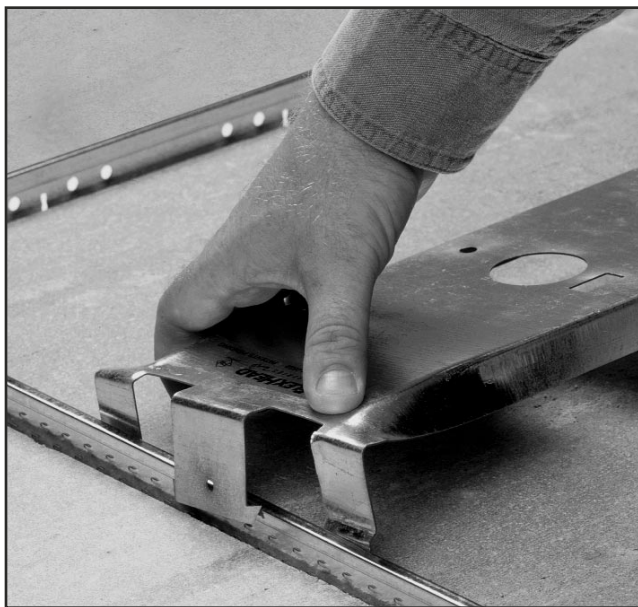
The sprinkler system specified for the last 6 feet – from the main branch line to the sprinkler head – can significantly impact time-to-occupancy of new or retrofit construction. It also can affect the cost of ownership of the building over time, as reconfiguration and service work occur.

Previously, hard pipe armovers have been the last connection to the sprinkler head. Their cost structure and installation timeframe are well understood, and they are the assumed material in most projects. However, in recent years, commercial flexible sprinkler systems have emerged as another solution for the final 6 feet. Such systems have been meeting the extremely rigorous demands of semiconductor cleanroom facilities for more than a decade. Equal-quality commercial versions are now available and are made more affordable by eliminating attributes that are necessary to meet cleanroom requirements, but they are irrelevant to commercial applications.

By using a flexible system, routine installation time can be cut by more than 80 percent in straightforward circum-

stances, and by even more in difficult situations, e.g., intervening ductwork or other obstructions between the feed and the sprinkler head. In both initial installation and reconfigurations of space, the flexible connection, combined with a standards-based alignment bracket, allows rapid and accurate center-of-tile placement of the sprinkler head. High-quality flexible systems deliver substantial net gains in cost and time over hard pipe armovers, whether measured by per-head or by hourly productivity criteria.

The ROI measurement model for flexible systems is somewhat different from hard pipe, however, which occasionally confuses traditionalists. With hard pipe armovers, the initial material cost is modest and the labor costs are substantial. With flexible systems, materials represent a larger percentage of the costs, but the labor expenses are greatly reduced and are more predictable. Pre-engineering time for projects also is reduced because the engineering task for each head simply entails specifying standard hose lengths. Post-installation corrections, such as resolving leaks, are virtually eliminated because each self-contained



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unit is leak- and pressure-tested at the factory.

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Building cost of ownership is improved over time because service work and reconfigurations are simplified. For example, the system need not be drained in order to relocate heads. Faster, simpler reconfiguration to meet

code in new layouts means that occupancy downtime also is reduced. Obviously, lower occupancy downtime translates into better ownership economics over the life of the building.

Addressing Perceived Drawbacks

A key success factor for flexible systems is the quality of the material. Specifying a flexible system that uses original quality stainless steel patented hose technology, and that is approved by both Factory Mutual and UL, precludes installation problems and operational issues. When evaluating flexible systems look for guaranteed quality control testing at the factory, and the manufacturer's track record.

A second factor is the unfamiliarity of flexible technology among some installers. Those who are accustomed to traditional job-costing estimates may balk at the higher material cost because they either don't understand or don't believe the dramatically different labor expense structure. In reality, flexible systems give installers more man-

agement options, allowing them to complete a job faster with the same-size crew, or complete it in a "normal" timeframe with a reduced crew. In either case, the net cost of any project will almost certainly be lower than hard pipe, with the quality of the work being much higher.

Perhaps the best testimonial for flexible technology and the claims made for it will be found in the marketplace itself. In the retail industry, for example, faster time to occupancy can directly translate into increased revenue. Major companies recognize this and have standardized quality flexible sprinkler systems for their new construction and retrofits. □

About the Author

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