



# Customer Focus on Loss Control

*Innovative Safety and Health Solutions<sup>SM</sup>*

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## Automatic Sprinkler Systems: Blow-Back Testing Can Minimize Excessive Water Damage

*Upon the completion of a sprinkler system in a new high school gymnasium, sprinkler fitters began to conduct a hydrostatic test as prescribed by the Acceptance Requirements of NFPA 13, Installation of Sprinkler Systems. During the test, the fitters were unaware that the end of a branch line was unconnected; thus, water spilled out of this opening and onto the gymnasium's wood floor, causing thousands of dollars in damages. Instead of signing off and moving on to the next job, the fitters had to frantically control further water damage, and explain this sensitive incident to the building owner's representative. This unnecessary water damage incident could have been prevented by using a technique called Blow-Back Testing.*

Blow-back testing is a quick and simple means of verifying that sprinkler system piping has no *significant* openings (such as those caused by missing cross-main caps, sprinkler heads, etc.). The sprinkler fitter physically blows, with single or multiple blows, into a port opening (e.g., pressure gauge opening, sprinkler head reducing coupling opening, etc.) and receives a corresponding *blow-back*. A blow-back of air from the port verifies that there are no significant openings in the system. This test can be conducted for new installations, for additions to existing systems, and for systems under renovation. Verify that the sprinkler contractor conducts blow-back testing as a standard operating procedure to verify piping performance and reliability.

### Benefits of Blow-Back Testing

- Quick and simple.
- Requires no special tools or equipment.
- Can be used to test a new system or a modification or addition to an existing system, and is equally effective in small or large systems.
- Verifies that system piping has no *significant* openings.
- Minimizes excessive water damage losses to the buildings contents and structure.

### Cautions

- False blow-back readings may occur if water is trapped in the system.
- The absence of a blow-back does not necessarily mean that significant openings exist. Some piping configurations (e.g., those with many elbows) may not blow-back even when the system is tight.
- Blow-back testing *cannot* identify or verify the presence of small pin-holes or cracks in the piping system. In other words, this test cannot guarantee complete tightness of the system.

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