



Automatic Sprinklers: Sprinkler Hanger Dangers

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Learning Objective: The student shall be able to identify a sprinkler installation condition that may lead to a leak.

Inspectors may have to look in confined and hidden spaces to find and correct potential problems. An attentive-to-detail fire inspector found this situation that could have resulted in an unwanted water leak from the fire sprinkler system.

The listed hanger that supports the pipe has been tightened against the all-thread rod so much that one end of the rod is in direct contact with the plastic pipe. Over time, if the pipe expands and contracts due to thermal changes, moves due to water hammer or simply moves with the building, friction between the pipe and all-thread rod could wear a hole in the pipe.

Nonmetallic chlorinated polyvinyl chloride (CPVC) pipe has dramatically changed the fire sprinkler industry with its ease of installation and superior flow characteristics compared to black iron pipe. The lightweight and easy-to-handle product makes it desirable for some specific applications in accordance with its listing.

However, CPVC pipe may be more susceptible to damage if it is not installed correctly or exposed to physical threats such as powder- or gun-driven anchoring devices, errant drill bits, and improperly installed hangers like this one.

The pipe manufacturer's technical literature specifically warns against this potential problem. It calls for a minimum 1/16-inch (1.6 mm) clearance between the rod tip and pipe.

The resulting leak might take a long time to find and cause considerable water damage to the property. The building tenant or owner may have to spend many hundreds or thousands of dollars to find and repair a small leak.

While it may seem that looking closely at every hanger on a sprinkler system installation is a time-consuming effort, correcting a problem like this potential one may make it all worth it.



Photo courtesy Rockville Fire Department, Maryland.
The contact between the all-thread rod and plastic pipe may lead to a leak.

