



Automatic Sprinklers: Sprinkler Obstructions from Poor Quality Control

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Learning Objective: The student shall be able to identify a common practice to ensure pipe coupons are not left inside sprinkler systems.

Despite all the good intentions of sprinkler designers, plans examiners, inspectors, and installers, mistakes sometimes happen that can have disastrous consequences on sprinkler system performance.

The small round disk hanging on the wire in the upper photograph is called a “coupon.” When a sprinkler installer bores into a pipe to install a flow switch, pressure switch, sprinkler nipple, or some other attachment, there is a very real danger that the portion of the pipe that is cut out—the coupon—might fall into and remain in the sprinkler pipe. If one or more coupons accumulate in the pipe—as illustrated in the lower photograph—there is a very real chance that water flow will never reach a sprinkler to control or suppress a fire.

By hanging this coupon on the fitting bolt, the sprinkler installer has provided an indication that he/she captured the coupon when boring the hole, and it did not fall into the pipe. This is a common practice among sprinkler installers to provide some confidence for the inspector. Is this absolutely the coupon that came from that hole? There really is no way to verify it without dismantling the attachment and checking to see if the coupon fits like a jigsaw puzzle piece.

The most reliable way to ensure coupons have not accumulated in the pipe is to conduct internal visual inspections; however, this normally is not feasible during the initial sprinkler system installation. Another technique is to fill the sprinkler system slowly with water and listen for the telltale signs of the residual metal pieces as they hit the interior pipe walls. Anytime the inspector suspects there is an obstruction, the pipe should be dismantled and physically verified that there is nothing that would interfere with water flow.

A good inspector uses all senses to detect and correct fire protection system problems.



These two photos represent differences in attention to detail in fire sprinkler pipe installation.

