



Automatic Sprinklers: Sprinkler “Heat Collectors”

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Learning Objective: The student shall be able to identify the prohibition against “heat collectors” in sprinkler system installations.

Look closely beneath the windows and you will see two sidewall sprinklers. Each sprinkler has a small (about 8 ½ x 11-inches [216 to 280 mm]) panel mounted immediately above it. Although not visible in the picture, there are no sprinklers at the ceiling of this large opening between two floors of a hotel.

These panels are intended to serve as nominal “heat collectors,” to trap thermal plumes from a fire long enough to open the adjacent sprinklers to discharge water onto the floor area below.

“Heat collectors” often are installed when the sprinkler design or installation does not comply with the requirements in NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems*, for the maximum distance between a ceiling and a sprinkler deflector.



The small projections are intended to collect rising heat to operate the sprinklers in a timely fashion.

While these devices may seem like a logical solution to an immediate problem, there is no engineering or scientific data that supports their use or performance. In fact, there is evidence that objects like this above a sprinkler will delay its activation unless the fire is directly beneath the sprinkler. A ceiling jet moving above this deflector could not reach the sprinkler.

In the 2010 edition of NFPA 13, the technical committees that develop the design and installation standard have included very clear language: “Heat collectors shall not be used as a means to assist the activation of a sprinkler.”

Sprinkler designers and installers—and the inspectors who approve the installations—are advised to review and follow the specific rules pertaining to the distances for sprinklers beneath ceilings. These rules vary for different ceiling configurations, so close attention to detail is important.

For additional information, refer to the 2010 edition of NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems*, Chapter 8.

