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U.S. Fire Administration / National Fire Academy

Coffee Break Training

Topic: Back-to-Back Sidewall Sprinklers

Learning objective: *The student shall be able to explain the requirements for separating back-to-back sidewall sprinklers.*

The sidewall sprinklers in this photograph were installed in this back-to-back configuration to spray water in either direction along means of egress that is open along one side to a multiple story atrium.

While this may have been a well-intentioned solution to a particular design challenge, it does not appear to meet the installation guidance of nationally recognized fire protection standards.

According to the National Fire Protection Association (NFPA) 13, *Standard for the Installation of Sprinkler Systems*, standard horizontal or extended coverage sidewall sprinklers should not be installed back-to-back without being separated by a continuous lintel, soffit, or baffle. In this example, the baffle extends only a few inches on either side and above the sprinkler.

The baffle performs two functions: it slows the ceiling jet so the sprinkler fusible element will operate in a timely fashion, and protects the second sprinkler from water spray that might result in a condition known as "cold soldering." (See Coffee Break Training 2008-45)

To satisfy the requirements of NFPA 13, baffles for standard and extended coverage sidewall sprinklers should

These sprinklers should be separated by a continuous lintel, soffit, or baffle.

(1) Be installed and located midway between sprinklers and arranged to protect the actuating elements.

(2) Be of noncombustible or limited-combustible material that will stay in place before and during sprinkler operation.

(3) Be not less than 8 inches (203 mm) wide and 6 inches (152 mm) high.

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