



Coffee Break Training - Fire Protection Series

Automatic Sprinklers: Part 2: Special Sprinkler Examples

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Learning Objective: The student shall be able to list a variety of “special sprinklers.”

Last week’s Coffee Break Training explained “special sprinklers.” This week we look at some examples and learn where they may be used. Remember, special sprinklers are those that are intended for specific hazards or construction features.

Special Sprinkler	Application
Attic	Combustible and noncombustible sloped attic spaces.
Institutional	In areas such as correctional, detention, and mental health care facilities where occupants may attempt to harm themselves.
Combustible concealed space	Protection of light hazard combustible, as well as noncombustible, concealed interstitial spaces requiring sprinkler protection.
Window	Protection for heat strengthened or tempered glass windows using open or closed sprinklers. Also may be used for fire exposure protection from one closely located building to another and to protect steel beams and columns to preserve structural integrity.
Flat spray	For lower clearance above the suspended open ceilings and in storage racks, as illustrated. (Not yet listed in United States.)
Conventional, old style	For a spherical water discharge pattern with approximately 50 percent of the discharge directed upwards and approximately 50 percent of the discharge directed downwards. Generally used with Ordinary and Extra High Hazard class systems. Permitted where special construction features require a unique water distribution, for the protection of fur vaults, or the replacement of similar sprinklers that had been installed prior to 1955.
Very extra large orifice	Designed to control high challenge fires in both palletized and rack storage occupancies using lower water pressures.
Non-ferrous	Designed specifically for magnetic resonance imaging (MRI) rooms.



This pendent sprinkler with a shield installed in rack storage is one special sprinkler example. The shield at the top is to help prevent the sprinklers from being wetted (cold soldered) from water spray of higher elevation sprinklers.

Always refer to the manufacturer’s installation details and listing requirements. For additional information on special sprinklers, refer to National Fire Protection Association 13, *Standard on the Installation of Sprinkler Systems*, Chapter 8.



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