



Automatic Sprinklers: Sprinklers Near Heat Sources

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Learning Objective: The student shall be able to identify the requirements for sprinkler installation near heat sources.

Sprinklers installed near heat sources should be selected with consideration for the potential accidental operation as a result of short- or long-term exposure to elevated temperatures.

According to National Fire Protection Association (NFPA) 13, *Standard for the Installation of Automatic Sprinkler Systems*, these locations should be given special attention to provide sprinklers having other than ordinary-temperature classification (135 to 170 °F [57 to 77 °C]), unless other temperatures are determined or unless high-temperature sprinklers are used throughout the remainder of the space.



This pendent sprinkler is installed beneath a plastic skylight. The sun's rays could heat an improperly installed sprinkler, causing it to open inadvertently.

- Sprinklers in the high-temperature zone in front of a unit heater should be of the high-temperature classification (250 to 300 °F [121 to 149 °C]), and sprinklers in the intermediate-temperature zone shall be of the intermediate-temperature classification (175 to 225 °F [79 to 107 °C]). NFPA 13 includes an illustration of these temperature zones.
- Sprinklers located within 12 inches (305 mm) to one side or 30 inches (762 mm) above an uncovered steam main, heating coil, or radiator should be the intermediate-temperature classification (175 to 225 °F [79 to 107 °C]).
- Sprinklers within 7 feet (2.1 m) of a low-pressure blowoff valve that discharges free in a large room should be of the high-temperature classification (250 to 300 °F [121 to 149 °C]).
- Sprinklers under glass or plastic skylights exposed to the direct rays of the sun should be of the intermediate-temperature classification (175 to 225 °F [79-107 °C]).
 - Sprinklers may be omitted from skylights and similar ceiling pockets not exceeding 32 feet² (3 m²) in area, regardless of hazard classification, that are separated by at least 10 feet (3 m) horizontally from any other skylight or unprotected ceiling pocket.
- Sprinklers in an unventilated concealed space, under an uninsulated roof, or in an unventilated attic should be of the intermediate-temperature classification (175 to 225 °F [79 to 107 °C]).
- Sprinklers in unventilated show windows having high-powered electric lights near the ceiling should be of the intermediate-temperature classification (175 to 225 °F [79 to 107 °C]).

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

